

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 656.—Vol. XVIII.

LONDON, SATURDAY, MARCH 18, 1848.

[PRICE 6D.]

**Stannaries of Cornwall.—In the Vice-Chancellor's Court.**  
HILL & VIGERS.

IN RE FOLDBROU,  
OTHERWISE SAINT AGNES CONSOLIDATED MINES.

**NOTICE IS HEREBY GIVEN,** that the SALE of the  
ENGINES, MACHINERY, MATERIALS, and EFFECTS upon and belonging  
to the above-mentioned MINES, is POSTPONED until the month of APRIL next.

HODGE & HOCKIN.

For GRAY & HILL, Solicitors, Helston.

Dated Registrar's Office, Truro, March 1, 1848.

**NORTH WHEEL ROBERT MINE, near HORRABRIDGE.**  
—TO BE SOLD, AT AUCTION, at the MINE, by GEO. CARNE, auctioneer, on  
Monday, the 27th March inst., at Twelve o'clock at noon (unless sold by private contract,  
of which notice will be given), the following MINE MATERIALS—viz.:

ONE WATER-WHEEL, 30 feet diameter, and 3 feet breast, with launders, beams,  
and trusses.

ONE BOB-STAND AND BRASSES; one whin, pulleys, and poppet-heads; about 60  
bushes of iron-rod, 1 1/2 to 2-inch diameter.

ONE LIFT of 8-inch PUMPS, including working barrel, windbore, clack, doorpiece, &c.

TWO NEW 8-inch PUMPS, at Plymouth Foundry.

One balance-bob, complete, sundry pulleys and stands, one pendulum, complete, a lot  
of miners' and smiths' tools, smiths' bellows, vice, screw, anvil, klove, a crane and  
gudgeon, with sundry lots of iron, leather, chests, ladders, lead pipe, dressing tools,  
&c., count-house tables and chairs, with many other articles.

For viewing the same, apply to Capt. Heath, on the mine; and for further particulars,  
to John Paul, Tavistock; or the auctioneer, Plymouth.

N.B.—All persons having claims on the adventurers, are requested to send the same  
to the pursuer, John Paul, Tavistock, Devon.

March 11, 1848.

**FOR SALE, BY PUBLIC AUCTION, at LEGHORN, on**  
the 31st of March next, the QUICKSILVER MINE, situated at RIPA, near PIE-  
TRASANTA, in TUSCANY, belonging to the Società Ydrargirica, including the WATER  
RIGHT, as existing, FURNACES, MINING TOOLS, &c., as described in the *Corriere*  
*Livornese*, of the 7th December last, and in the documents laying for inspection with the  
president of the society, Mr. C. A. Dalgas, Leghorn.—The property will be sold to the  
highest bidder.

A deposit of 10 per cent. to be made by the purchaser, immediately after adjudication.  
The auction fees will be borne by the sellers, but the expenses of making over the property  
to be paid by the purchaser.—Leghorn, Feb. 25, 1848.

**TO CAPITALISTS.**—An opportunity, which rarely occurs, now  
OFFERS for the INVESTMENT of a MODERATE SUM in a rich TIN MINE,  
on DARTMOOR, in the county of Devon, known by the name of EAST BIRCH TOR.  
Many thousand pounds' worth of tin have already been sold from this mine; the lodes  
have been extended on, and tributaries are now at work. It is desirable, from the rich  
course of tin gone down, to sink to deeper levels; it has, therefore, been determined to  
augment the capital, by an issue of new shares, which are now in course of preparation.  
A box of specimens has just arrived from the mine, and any party calling at the office,  
No. 1, Cuthall Chambers, Cuthall-court, Throgmorton-street, City, can see the same,  
and where all particulars may also be obtained.  
Application for the five remaining shares must be made on or before the 25th inst.  
London, March 16, 1848.

**EXTENSIVE IRON-WORKS.—FOR SALE, BY PRIVATE**  
BARGAIN, the BLAIR IRON-WORKS, belonging to the Ayrshire Iron Com-  
pany, situated in the parish of Dalry, and county of Ayr.

These works, which have been erected at an immense cost, consist of two blowing-  
engines, five blast-furnaces, workmen's houses, steam-engines for working the mine-  
rails, together with utensils at the pits, furnaces, &c., all in working order, and capable  
of producing upwards of 25,000 tons of pig-iron per annum.

One of the blowing engines, high-pressure, estimated at 90-horse power, was erected  
in 1841; the other, a condensing engine, was erected in 1847, and is estimated at 200-  
horse power, the latter being capable of blowing five furnaces, and both fitted up in the  
most substantial manner, and at present in the best working condition.

The furnaces have been erected with the greatest care, and are fitted with air-heating  
apparatus of the most approved construction. The make of each furnace has generally  
averaged upwards of 150 tons of iron per week, and some of them have produced 180.

There are, besides the manager's house and store buildings, 187 workmen's houses, in  
a habitable state, attached to the furnaces and pits, and there are 30 partly built, which  
could be finished at a small additional outlay. There are also a new foundry, wrought shop,  
fire-brick work, &c.

The MINERAL FIELDS, consist of COAL, IRONSTONE, LIMESTONE, and FIRE-  
CLAY, held in lease, by the company, at moderate fixed rents and royalties, all situated  
within easy distances of the furnaces, and for the most part have the advantage of railway  
communication.

The COAL-FIELDS consist of several hundred acres, of which only a small portion has  
been worked. Several pits, fitted with good engines and machinery, are sunk to the  
rock, and partly in operation.

The IRONSTONE consists of the well-known black-band, yielding about 3000 tons of  
calcined stone per acre; and it has been estimated that there are 300 acres or thereby  
still to work—besides which, there is a large extent of clay-band ironstone, hitherto little  
worked, but capable of yielding a large output. There are 15 pits, with excellent steam-  
engines—some of them in present operation, and others ready to resume working.

The LIMESTONE QUARRY is worked by open cast, and is connected with the works  
by railway.

The FIRECLAY is abundant, of excellent quality, and cheaply produced.

The Glasgow, Paisley, Kilmarnock, and Ayr Railway (extending to Carlisle), passes  
close to, and has connection with, the furnaces—by means of which, and others in con-  
nection with it, the produce can be conveyed to the city and port of Glasgow (32 miles  
off), and to the seaports on the Ayrshire coast, each within a few miles of the works.

There is a large stock of calcined ironstone, coal, and limestone on the ground, so that  
the works may be put into immediate operation, and, under judicious management, the  
manufacture of pig-iron may be carried on to the greatest advantage. The concern will  
be found to be well worth the attention of persons having the requisite capital, and affords  
an opportunity of entering into the business seldom to be met with.

**MALLEABLE IRON-WORKS.**—Considerable progress has been made in the erection  
of extensive malleable works, which, when completed, will be capable of turning out  
200 tons of bar-iron weekly. The most of the necessary machinery has been prepared  
by the contractors; and a portion of the work could be brought into operation in a few  
months to produce the half of the above estimate. This work is nearly adjoining the  
Pig-iron Works, and connected by railway, and will be sold either together or  
separately.

Plans of the property and mineral workings lie for inspection at the Ayrshire Iron Co.'s  
office, 113, St. Vincent-street, Glasgow, where, on application to Mr. Brown, every ne-  
cessary information will be afforded, and orders given for inspection of the works.

**VALUABLE SEA-SALE COLLIERIES TO BE LET.**  
—TO BE LET, and entered upon on the 1st of July next, the valuable current-  
working COLLIERIES of EVENWOOD and NORWOOD, in the county of Durham.

These collieries are situated upon the line of the Stockton and Darlington Railway, by  
which the coals are conveyed to the shipping ports of Stockton and Middlesbrough; and  
also, by means of this, and the York and Newcastle, and Leeds and Thirsk Railways, the  
coals have access to the important land-sale trade of Northallerton, Thirsk, Ripon, York,  
the lead-mining districts, and other towns in Yorkshire, and for shipment on the Ouse;  
and, by means of the proposed Northern Counties Union Railway, with the important  
land-sale trade of the western parts of Yorkshire and Westmoreland.

The royalties are very extensive. Two seams of coal are in working—one upwards of  
6 feet, and the other of 3 feet. The pits are at a moderate depth from the surface, and  
the coal is worked at an exceedingly cheap rate, and is much prized as a household coal,  
both for export and land-sale.

The catering tenants have the option of taking what stock they may require, at a valua-  
tion; and the amount of capital required to enter upon the collieries will be of very  
small amount.

For particulars apply to Thomas Wheldon, Esq., Barnard Castle; or to Nicholas Wood,  
Esq., Newcastle-upon-Tyne.—Newcastle, March 3, 1848.

**VALUABLE PUMPING AND WINDING ENGINES FOR**  
SALE.—TO BE SOLD, BY PRIVATE CONTRACT, at WHEEL VOR MINE,  
in the parish of BRIDGE, CORNWALL.

1. 80-inch DRAUGHT ENGINE, 10-feet stroke in cylinder, and 8 feet in shaft, main  
beam and caps, top nozzle, spring piston and rod—all new this year; with four  
bolters, of 12 tons each, in excellent repair.

1. 80-inch DITTO, 10-feet stroke in cylinder, 7 1/2 feet in shaft, cylinder, piston, bottom  
and cover, nearly new, with two bolters, of 12 tons each, and three bolters, of 10  
tons each, all lately thoroughly repaired.

1. 49-inch DITTO, 9-feet stroke in cylinder, and 7 feet in shaft, without bolters.

1. 20-inch WINDING ENGINE, 5-feet stroke, with two bolters, of 4 and 6 tons, and  
vertical cage, all in complete repair—the bolters and some other parts nearly new.

1. 18-inch DITTO, 4-feet stroke, with one boiler, of 5 tons, and horizontal cage, complete.

Several TONS of straight and turned STEAM-PIPES,  
12-head CAST-IRON STAMPS AXLES, with bearings, oak frames, &c., complete.  
A powerful WEIGHING MACHINE, nearly new, comprising every requisite.

An immense number of PUMPS, matching-pieces and windbore, 12 to 17-inch bore,  
with working barrels, doorpieces, H-pieces, cases, with stuffing-boxes and glands  
to match, from 11 to 19 inches bore, and plunger-poles, from 13 to 19 diameter.

Faggoted rod and cap plates, 6, 7, and 8 inches wide, staples and glands, over-runners,  
caps, saddles, troughs and gudgeons for balance and other bobs.

Application to be made to Capt. R. Blight, jun., on the mine.  
Dated Nov. 29, 1847.

N.B.—The above are of easy transit to Hayle wharf, and from thence on ship-board,  
if required.

**SOUTH WALES.—TO BE SOLD, in LLANDILO TALLY-  
BONT parish, near SWANSEA, the FREEHOLD FARMS, called PENGELLY-  
DDRAIN TYRREACH and BRYNLLWYD, containing 75 acres, more or less, together  
with the valuable VEINS of COAL, IRONSTONE, and other MINERALS. The coal is  
of excellent quality for steam-packet purposes, and adjoins, and is partly intermixed with,  
the property now worked by the Cameron's Coalbrook Steam-Coal Company. A consider-  
able portion of the coal under this property may be won at a very small cost.  
For particulars apply to Mr. Hiram Williams, No. 61, Moorgate-street, London.**

**MANUFACTURING PREMISES, SOUTH WALES, on**  
the Banks of a Tide River, about a quarter of a mile from a station on the South  
Wales Railway, TO BE DISPOSED OF.—The premises, which are held on lease (at a low  
rent), 27 years of which are unexpired, consist of a large glass-house cone, with exten-  
sive buildings, two cottages, and about four acres of land; they have, for many years,  
been in operation as a manufactory of charcoal, sugar of lead, and naphtha; but, with  
slight alteration, might be adapted for other manufactures. There are two steam-  
engines, and other apparatus, which may be taken at a valuation.—Coal may be had de-  
livered on the premises at less than 5s. a ton.  
For further particulars apply to T. W. Lawford, jun., solicitor and land agent, 11, Ab-  
dail, Llandilo, South Wales.

**STEAM-ENGINES ON SALE.**  
No. 1. A second-hand double power CONDENSING MARINE ENGINE, with  
cast-iron framing and side beams; cylinder 31 inches diameter, 3 feet stroke; air-pump,  
lined with brass, no boiler, 47-horse power, with 7 lbs. pressure on the square inch, and  
very suitable for pumping and winding in a colliery, lead mine, or to drive any kind of  
mill-work.

No. 2. A double power CONDENSING MARINE ENGINE, quite new, but unfinished,  
with cast-iron framing and side beams; cylinder 43 inches diameter, 3 1/2 feet stroke, 91-  
horse power, with 7 lbs. pressure on the square inch; no boiler, and suitable for the same  
purposes as No. 1.

No. 3. A double power CONDENSING LAND BEAM WINDING ENGINE, cylinder 39  
inches diameter, 4 1/2 feet stroke, hand gear, with button valves, parallel motion, fly-wheel,  
wagon boiler, with all its fittings, door, grate, dead plate, &c.; two large cast-iron boll  
cranks and pedestals, with strong wrought-iron connecting-rods, for pumping water from  
two lifts of pumps, 100 yards deep; two rope wheels, suited for flat chains, apparatus to  
throw in and out of gear, pit-head pulleys, &c.; 25-horse power, with 7 lbs. pressure on  
the square inch, and suitable for the same purposes as No. 1.

No. 4. A new direct action NON-CONDENSING ENGINE, double power, suitable for a  
corn-mill, or winding in a coal or lead mine, with improved spring packing for piston;  
ditto ditto, for nozzle valves; cylinder 18 inches diameter, 2 1/2 feet stroke, 28-horse power,  
with 30 lbs. pressure on the square inch—no boiler.

No. 5. A double power NON-CONDENSING LAND BEAM ENGINE, cylinder 20 1/2 inches  
diameter, 4 feet stroke, slide valve, parallel motion, no boiler, and quite new; 52-horse  
power, with 30 lbs. pressure on the square inch, and suitable for the same purposes as  
No. 1.

No. 6. A double power NON-CONDENSING BEAM WINDING ENGINE, cylinder 15 1/2  
inches diameter, 3 1/2 feet stroke, with a cast-iron portable frame, slide valve, hand gear,  
parallel motion, flat-rope wheel, spur and pinion wheels for the same; 29-horse power,  
with 30 lbs. pressure on the square inch, no boiler, and suitable for the same purposes  
as No. 1.

No. 7. A second-hand PUMPING ENGINE, with cylinder 48 inches diameter, 7 feet stroke  
in the house, and the same in the pit, with air-pump condenser, hand gear, &c.,  
pumping three lifts of pumps 100 yards, working barrels, 14 inches diameter; no boiler,  
112-horse power, with 7 lbs. pressure on the square inch.

No. 8. A new direct action NON-CONDENSING DOUBLE POWER ENGINE, 7-horse  
power, with a pressure of 30 lbs. on the square inch. This engine takes very little room.  
One pair of MARINE BOILERS, newly repaired, suitable for a pair of 45 to 50-horse  
power engines.

NEW BOILERS, of any shape, can be made at a short notice, to suit any of the above  
engines.—For further information, apply to  
MOTYNS Foundry, near Holywell, Flintshire.

**STRONG MIXING PIG-IRON.—The YSTALYFERA**  
IRON COMPANY beg to solicit ORDERS for their ANTHRACITE PIG-IRON.  
This iron mixes well with Scotch pig—imparting to it strength and elasticity, and re-  
ceiving from it a portion of its softness and fluidity. No. 3 Pig is recommended for mix-  
ing with soft iron—Nos. 1 and 2, for machinery castings, requiring great soundness and  
strength. At this period, when cast-iron is so much employed in the construction of  
bridges and other buildings, requiring all the strength and elasticity which the best mix-  
ture of metal will afford, it may be interesting to call attention to the characteristics of  
ANTHRACITE PIG-IRON, as ascertained by that great practical authority, the late  
DAVID MUMFAT, Esq., M.I.C.E.—

"It greatly exceeds, in strength, in defective powers, and capacity to resist impact, any  
iron at this time manufactured in the United Kingdom."  
"It now only remains for me to mention a property peculiar to this iron, which was  
noticed at the time I made the trial experiments, four years ago, but which has been more  
fully developed in those more recently made. The property referred to is one of great  
springiness, or elasticity, which communicates a tendency to the bar, in deflecting and  
breaking, to assume the rectangular form. Bars that had obtained a permanent set of  
2-10ths, when afterwards broken, presented but a slight deviation from a right line; and  
in no case, did the curvature exceed one-fourth of a tenth."

"It was also remarked, that most of the fractures, in breaking, presented a regularity  
of grain throughout, resembling the structure of unhardened steel."

Address THE YSTALYFERA IRON COMPANY,  
Near NEATH, SOUTH WALES.

Dated June 22, 1847.

**HOT-BLAST WITHOUT COAL, LABOUR, or REPAIRS.**  
DIXON AND BUDD'S PATENTS.

Apply for particulars, or to inspect the process in operation on six blast-furnaces, to  
J. Palmer Budd, Esq., Ystalyfera Iron-Works, near Neath.

Dated June 22, 1847.

**STEAM TO INDIA AND CHINA, via EGYPT.—Regular**  
MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS  
to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY  
BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS  
by their steamers—starting from Southampton on the 20th; and from Suva on or about  
the 10th of every month.

For rates of passage-money, plans of the steamers, and to secure passages, apply at the  
company's offices, 51, St. Mary Axe, London.

**CALEDONIAN RAILWAY COMPANY.—LOANS ON**  
DEBENTURES.—TENDERS OF LOANS ON DEBENTURE BONDS are now  
RECEIVED in sums of not less than £500, for any number of years not exceeding five.  
Interest to be at the rate of 5 per cent. per annum, payable half-yearly, in London, Edin-  
burgh, Glasgow, or in any country bank.

Tenders to be addressed to this office, giving full name and address of lender.—Parties  
may also communicate with Messrs. Foster and Braithwaite, 68, Old Broad-street, London,  
By order, D. RANKINE, Treasurer.

Caledonian Railway Office, Edinburgh, Feb. 29, 1848.

**CHARING-CROSS BRIDGE COMPANY.—TENDERS**  
FOR LOANS ON DEBENTURES.—The directors of this company are prepared  
to RECEIVE TENDERS OF LOANS ON DEBENTURES, in sums not less than £100, for  
three, five, or seven years, bearing interest at the rate of 5 per cent. per annum—Interest  
thereon payable half-yearly, at the bankers of the company; secured under the provisions  
of the company's Act of Parliament, 6th and 7th William IV., cap. 133.

Tenders to be addressed to this office, No. 9, Villiers-street, Strand.  
By order, RICHARD LAWRENCE, Secretary.

Charing-cross Bridge Office, 9, Villiers-street, Strand, March 16, 1848.

**HYDRAULIC TELEGRAPH COMPANY.**  
(Provisionally Registered, pursuant to the 7th and 8th Victoria.)  
JOWETT'S PATENT.

OFFICES, pro tem.—No. 17, WELLINGTON-STREET NORTH, STRAND,  
Adjoining the Morning Post Journal.—Entrance in Exeter Change.

Capital £300,000, in 8000 shares, of £25 each.—Deposit £2 12s. 6d. each share.

No shareholder to be liable beyond the amount of his shares.

The powerful claim upon the attention of the scientific world which Jowett's Hydraulic  
Telegraph has created (confirmed also by the various daily, weekly, provincial, and other  
journals), has rendered it indispensable on the part of the committee of management, in  
order to carry out the important objects that the invention is capable of realising, to con-  
stitute a public company.

The provisional committee have made the most advantageous terms with Mr. Jowett  
for the purchase of his patent, and the mode of payment has been effected so as not to  
impede, in the slightest degree, the progress of the undertaking.

Forms of application for shares (accompanied by a banker's, solicitor's, or satisfactory  
reference) can be addressed to the secretary, at the offices, pro tem., 17, Wellington-street  
North, Strand, where every information may be had, and where the model drawings and  
plans are open to public inspection.

**OFFICE FOR PATENTS, 7, STAPLE INN, HOLBORN.**  
J. MURDOCH (successor and late assistant to Mr. Hobart)

INFORMS INVENTORS and PATENTEES, that, at his OFFICE, they can obtain  
REFERENCE TO A CLASSIFIED LIST OF PATENTS,  
(THIS ONLY ONE CENT), which shows at one view all the Patents ever granted for any  
particular object, whereby they may save much trouble and expense, and procure in-  
formation not otherwise obtainable. BRITISH and FOREIGN PATENTS OBTAINED,  
and USEFUL and ORNAMENTAL DESIGNS REGISTERED.

SPECIFICATIONS carefully prepared, and REPORTS of ENROLLED SPECIFICA-  
TIONS furnished on moderate terms.

FINISHED and WORKING DRAWINGS executed with accuracy and dispatch.

**BLAENGWAWR STEAM COAL, CARDIFF.—ORDERS**  
for the BLAENGWAWR STEAM COAL RECEIVED by Mr. W. F. STANTON  
9, Love-lane, Eastcheap; or by Mr. George Bully, agent, 1, Bate-street, Cardiff, Glam-  
organshire, South Wales.

**TO CAPITALISTS and PARTIES ENGAGED in COPPER,  
LEAD, and TIN MINES.**—Mr. HIRAM WILLIAMS, Mining Engineer, is pre-  
pared to TREAT with individuals for the USE of a PATENT that will ensure LARGER  
PROFITS than any hitherto realised from mineral operations in this country.  
Mr. Williams may be consulted on the subject any day at his office, No. 61, Moorgate-  
street, City.

**LAND DRAINAGE.**—Mr. W. HUGHES, Civil Engineer,  
begs to announce, that he undertakes the INSPECTION of ESTATES to be  
DRAINED, the SETTING OUT of DRAINS, the RECLAMATION of LAND, and the  
GENERAL SUPERINTENDENCE of WORK, at a FIXED CHARGE PER ACRE, ac-  
cording to the extent of land.—Full particulars may be had on application to Mr. W.  
Hughes, C.E., at the office of the *Mining Journal*, 25, Fleet-street, London.

**MR. R. TREDINNICK, THREE KING'S COURT,**  
LOMBARD-STREET, LONDON.  
Continues to DEAL in every description of MINING, RAILWAY, BANKING, INSU-  
RANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously,  
upon personal application.—MONEY ADVANCED upon the above securities.

**JAMES LANE, MINING SHARE DEALER,**  
75, OLD BROAD-STREET, LONDON.

**WILSON & FRASER, 2, WELLINGTON-BUILDINGS,**  
LIVERPOOL, and 15, EXCHANGE-PLACE, GLASGOW, have always ON HAND  
PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS.

**BRITISH MINING OFFICES.—NOTICE.**—The BUSINESS  
of these OFFICES will henceforth BE CONDUCTED at No. 49, FLEET-STREET,  
LONDON, and No. 4, STAMP-OFFICE BUILDINGS, MANCHESTER, to either of which  
offices communications are requested to be addressed. The correspondence and reports  
with the accounts, of the respective companies may be inspected at all times, on ap-  
plication.  
British Mining Offices, Feb. 17, 1848.  
WILLIAM SHEARMAN  
JAMES TRUSCOTT.

**MONEY.—MESSRS. KILICK & CO. (late WINSTANLEY,  
KILICK, & Co.), SHAREBROKERS, inform their friends and the public, they  
make IMMEDIATE ADVANCES, to any amount, on the deposit of English and For-  
eign Railway Shares, Scrips, and Debentures, upon exceedingly advantageous terms;  
they also BUY and SELL every description of STOCK and MINING SHARES, at much  
less commission than usually charged.  
6, Bank Chambers, opposite the Bank of England.**

**ALTEN MINING ASSOCIATION.**—Notice is hereby given,  
that a DIVIDEND of FIVE SHILLINGS per share will be PAYABLE at the  
office of the association, on Monday, the 13th day of March inst., and every other day in  
that week, and on Wednesday in every week following, between the hours of Eleven and  
Three o'clock.—The scrip certificates, on which the dividend is claimed, must be left at  
the office two clear days before the payment can be made.  
By order of the board, EDWARD J. COLE, Secretary.  
Winchester-house, March 9, 1848.

**BEDFORD UNITED MINES.**—A MEETING of the adven-  
turers of this mine will be HELD at No. 50, Threadneedle-street, on Thursday,  
the 23d of March, at Twelve o'clock precisely, for the purpose of declaring a dividend,  
and on other business.  
March 11, 1848.  
By order of the committee,  
G. KIECKHOFFER, Secretary.

**COMBARTON and NORTH DEVON LEAD and**  
SILVER MINING COMPANY.—A SPECIAL GENERAL MEETING will  
be HELD at the counting-house, by order of the directors, on Wednesday, the 12th day of  
April next, at Two o'clock in the afternoon, for the purpose of taking into consideration  
the propriety of abandoning the mine, and dissolving the above company.  
March 16, 1848.  
Combarton and North Devon Lead and Silver Mining Company.  
C. R. WEBB, Secretary.

A SECOND SPECIAL GENERAL MEETING will be HELD at the counting-house,  
by order of the directors, on Thursday, the 13th day of April next, at Twelve o'clock  
noon, for the purpose of taking into consideration the propriety of abandoning the mine,  
and dissolving the above company.  
These meetings are convened in compliance with the 15th regulation on the scrip.  
C. R. WEBB, Secretary.

**COPIAPO MINING COMPANY.**—Notice is hereby given,  
that the HALF-YEARLY MEETING of the shareholders in this company will  
be HELD at their office, No. 22, Abchurch-lane, on Thursday, the 30th inst., at One o'clock  
precisely.  
By order of the directors,  
32, Abchurch-lane, March 16, 1848.  
FREDK. GRELLER, Secretary.

**TAMAR SILVER-LEAD MINING COMPANY.**  
(SMELTING DEPARTMENT.)

Notice is hereby given, that a THIRD PAYMENT of TWENTY-FIVE PER CENT.  
of the subscribed CAPITAL of this company, and a THIRD PAYMENT of TWENTY-  
FIVE PER CENT. of the BONUS, will be made on Wednesday, the 29th inst., and fol-  
lowing Wednesday, between the hours of Twelve and Four.

The interest of 5 per cent. on the above 25 per cent. subscribed capital, will cease on  
the 29 inst.—The debentures must be left at the office of the company three clear days,  
to be examined and marked.

44, Finsbury-square, London, March 16, 1848.

**TRELEIGH CONSOLIDATED MINING COMPANY.**  
The directors hereby give Notice, that a MEETING of the shareholders will be  
HELD at the office, on Monday, the 3d of April next, at One o'clock precisely, when the  
accounts, for three months, ending the 31st March, will be laid before them.

57, Old Broad-street, March 15, 1848.  
W. M. NICHOLSON, Secretary.

**ADCOCK'S PATENT SPRAY PUMP.**—This important  
INVENTION having been PERFECTED, and brought into SUCCESSFUL  
PRACTICAL OPERATION, the PATENTEE is ready to RECEIVE, and to execute  
ORDERS.—Apply to Henry Adcock, C.E., at his offices, No. 6, Moorgate-street, London,  
where pamphlets, descriptive of the invention, may be had; at the office of the *Mining*  
*Journal*, 25, Fleet-street; and through any respectable bookseller.—price 6d.

**PATENT GALVANISED IRON and WIRE ROPE WORKS.**  
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Prince Albert







**MEETINGS DURING THE ENSUING WEEK.**

<b>TUES DAY</b> .....	Asiatic—14, Grafton-street.....	2 P.M.
<b>MONDAY</b> .....	Statistical—12, St. James's-square.....	8 P.M.
	British Architecture—16, Grosvenor-street.....	8 P.M.
	Chemical—Court, of Arts, Adelphi.....	8 P.M.
	Medical—Bolt-court, Fleet-street.....	8 P.M.
<b>TUESDAY</b> .....	Linnæan—Soho-square.....	8 P.M.
	Horticultural—21, Regent-street.....	3 P.M.
	Civil Engineers—25, Great George-street.....	8 P.M.
<b>WEDNESDAY</b> .....	Geological—Somerset-house.....	8 P.M.
<b>THURSDAY</b> .....	Royal—Somerset-house.....	8 P.M.
	Antiquarian—Somerset-house.....	8 P.M.
	Royal Society—Literary—4, St. Martin's-place.....	4 P.M.
	Medico-Botanical—32, Sackville-street.....	8 P.M.
<b>FRIDAY</b> .....	Royal Institution—Albemarle-street.....	8 P.M.
	Physiological—12, St. James's-square.....	8 P.M.
<b>SATURDAY</b> .....	Royal Botanic—Inner Circle, Regent's-park.....	2 P.M.
	Westminster Medical—17, Saville-row.....	8 P.M.

PROFESSOR ANSTED'S LECTURES AT KING'S COLLEGE.

After briefly recapitulating the chief phenomena of veins, as described in the former lectures, which consisted of their distribution, direction, magnitude, and extent, and also the materials found in veins enclosing the ores, or otherwise, Prof. ANSTED referred to the chemical condition of such minerals and ores, which were often quite different from their containing rock, or country, and had no relation to it whatever. The metals found in right running veins, in granite, granite and clay-slate together, and clay-slate in Cornwall, were, for instance, oxides of tin, sulphures of tin, and sulphures and oxides of copper, and they were chiefly in quartz gangues. In the cross-courses in the same district, occurred sulphures of lead and antimony, with silver. In the limestone rocks in Durham, Derbyshire, and other counties, we had chiefly sulphures of lead and zinc, with carbonates and fluates of lime, and sulphates of barytes. In the Isle of Man, sulphures of lead with silver, in granite and gneiss, were found. In Russia, and some parts of Germany, carbonates of copper in granite rocks; and in central Germany, mercury and cinabar in porphyry.

The talented lecturer next referred to the highly important facts of observation.—1. That lodes were usually affected by cross-courses, and near, or at a change of country, usually becoming richer, but sometimes depreciating considerably in value.—2. That when veins branched off they often became poor, but when several branches came together they were often rich.—3. That when two veins approached, and came in contact with each other in the deeper parts of the mine, they were generally productive of metalliferous ore at the place of meeting.—4. That many veins became poor in ore when they were suddenly and greatly increased in magnitude.—5. That there was generally a small change of temperature in and near the productive parts of mines in some districts.

Professor Ansted then went at some length into the subject of the association of metals. He mentioned *gold*, as usually occurring with platinum, iridium, osmium, rhodium, &c., in quartz rock, where iron pyrites was common. Gold was, in fact, universally distributed wherever iron and quartz occurred, and was always found native, or alloyed only with other metals.

*Silver* was found, in Transylvania, with gold; in Germany, though principally in the Black Forest, it was very abundant, in a native state, with cobalt and arsenic, in granite; elsewhere, it was almost invariably in the form of oxide and sulphuret, and usually associated with copper, and always with lead to some extent.

*Copper* occurred native, and with silver, in large quantities, in North America, on the shores of Lake Superior, in basaltic rocks, in the form of sulphuret and oxide; with tin in Cornwall, in granite and schistose rocks, and also in Cuba and South America; in the form of carbonate in Russia (the Ural Mountains), South Australia, and Germany.

**Lead**, as sulphuret, with much silver, in igneous rocks, in England and various parts of the world; with sulphuret and carbonate of zinc, and little silver, in limestone rocks, in England: and also, with silver and copper, in the

*Mercury*, native and sulphuret, in porphyry and igneous rocks.  
*Iron*, universally as oxide, in igneous and basaltic rocks; as sparry carbonates, in limestone rocks; and as clay ironstone, in the coal measures.  
*Cobalt*, usually with silver, antimony, and bismuth, and probably always

*Manganese*, generally in the form of an oxide, and almost as extensively diffused as iron.

Professor Ansted also alluded briefly to *bismuth, nickel, chrome, tungsten*, and other inferior metals and their associations, and concluded this part of the subject by some remarks upon its importance in any general theory of mineral veins. Before proceeding to the questions naturally raised by the consideration of the modes in which mineral veins were probably filled it would be as well to

the modes in which mineral veins were produced, it would be as well to rehearse what had been established with regard to their usual phenomena, for without a distinct recollection of these, it would be impossible to understand the various theories he should have to refer to. They were to recollect, then, that mineral veins were crevices which, generally speaking, though not invariably, were newer than the rocks which contained them; and that the conditions which they exhibited did not admit of the idea that they had been originally formed at the period when the rocks were deposited. Thedate, also, in which mineral veins were generally found indicated that they had been formed after the consolidation of the containing rocks; namely, after they had had time to become hard, and assumed their present aspect. Besides this, they were often found crossing, not only igneous and metamorphic rocks, but various mechanical deposits, proving clearly that they must be newer than these deposited rocks. It was certain, also, from the nature of their contents, that they were the result of causes different from those which produced the rocks—as, for instance, where a specimen of galena, like that upon the table, occurred in a rock, which was itself formed at the bottom of the sea by the accumulation of mere carbonate of lime, it was quite clear that the metal had been introduced by some other and subsequent action; and, in short, the idea that the beds were formed, cleft, and filled up with any material at one time, was quite beyond the possibility of the case. Again, it was obvious that metallic veins were newer than the containing rocks, because they so frequently interfused with systems of rocks necessarily of different ages, and because there occasionally occurred veins entirely filled up with mineral matter, but which had been since distributed and refilled, and crevices formed after a second disturbance, and again filled. He dwelt so repeatedly on the fact, that the crevices were newer than the rocks, because, in Cornwall, and other districts, it was the common opinion that the veins, and the rocks in which they were inclosed, were of the same date, and that it was quite impossible to make any sound opinion respecting the value of veins, except from mere experience and practical acquaintance with their appearance. He did not wish to undervalue experience; no doubt it was a most important element in mining, and absolutely necessary for success, but it was not everything. Unless experience were founded on knowledge, it was quite as likely to mislead as to conduct the miner to correct results; and, when a miner was sent into another district, his experience, however valuable it might be in the district in which it was acquired, often did nothing but mischief, if it were not guided by judgment and knowledge. The ideas that similar appearances were similarly derived from similar conditions, was not one of general application. It was not so, by any means, universally, because similar appearances did not ensure the like existence of all circumstances. It was, therefore, necessary to apply the results of scientific research to the observations of the practical miner, in order to judge correctly of those phenomena which it was clear had been the work of nature, and long periods of time.

equal and long periods of time, and the result, probably, of several operations. There was another point which it was necessary to remember, before any satisfactory understanding could be arrived at, as to the nature of the various species performed with respect to the filling-up of mineral veins, and that was the way in which the metalliferous ores occurred in the mineral veins. In some cases, mineral veins contained metals, and sometimes not; sometimes they contained earthy minerals, with metals on them and in them. The ways in which the metalliferous ores themselves were presented were very varied, and he had put on the table a considerable number of specimens to illustrate the fact. A few showed distinct crystallisation; while in others it was not perceptible. The entire absence of distinct crystalline form was very frequent; and, if they looked carefully over each of the specimens, they would perceive all something like crystalline structure, even when no crystals could be discerned. The cleavage, for instance, was a certain evidence of a crystallisation, and it was sufficient to show that a change had taken place. The prevailing minerals found were the carbonates, sulphurets, oxides, and native metals.—The talented lecturer here described the peculiarities of each, as illustrated by the specimens upon the table. —Amongst the metallic minerals found as veins, the sulphurets were the most common.

The main facts to be accounted for, were the circumstances under which the mineral veins made their appearance, and this was a question which had been the subject of much discussion. In the early days of geology, Werner formed a theory from a number of observations made in a district which was certainly well calculated to offer a fair illustration of the subject. Werner held, that every mineral substance was deposited from solution, or suspension, in water. It was his theory, and a very good theory it was, as far as regarded a great

many rocks, which were well known to be of aqueous origin. It was, however, a false theory in respect to granite, basalt, and other rocks, clearly of an igneous origin. Werner was a good observer in his way, and had a greater knowledge of facts than any other geologist of his time. In accordance with phenomena of a certain description, and in obedience to his theory, he came to the conclusion, that mineral veins were filled by aqueous deposition, the crevices being first formed by the contraction attendant upon their drying. This theory, then, involved the following principles:—First, that the rocks were originally in a state of aqueous solution; next, that in drying they contracted, and formed fissures; and, lastly, that these fissures were filled from above by materials rolled into them by water, or by the deposition of minerals, held in suspension, or solution, by water—in short, that everything had an igneous origin. Now, it must be admitted, that many mineral veins presented appearances which carried out this view; but it would not generally apply, even in ordinary cases, unless it were admitted that water could dissolve a great many minerals, which were not usually supposed to be affected by it. It was well known, that carbonate of lime was often found in a state which bespoke an aqueous origin; the crystals of this mineral might be formed when it was passing from a state of aqueous solution by slow evaporation. There was nothing in such crystals but what might be accounted for by the action of water; and so again with a number of other substances—such as the carbonates of copper, which often exhibited a form the result of layers, being deposited concentrically on one another, which might easily happen in connection with water. So again with many of the oxides of iron, which presented appearances, which might be very reasonably referred to this origin.

This theory also involved the possibility of substances, such as quartz, being soluble in water—substances generally believed to be unchangeable by that fluid; but which there was great reason to believe were much more easily and completely acted on by it as a solvent, than any one till lately had imagined. He might mention also that, very recently, a gentleman, distinguished by his researches into electrical phenomena, had asserted that he could dissolve the metals in pure water. These were facts which evidently told in favour of the Wernerian theory; and, in considering its merits, they certainly ought to be taken into account. It was possible that in this way, also, might be formed some of the sulphurets of metals—as, for instance, galena—which was found in lead mines under circumstances that proved that it had absolutely replaced original organic substances in strata. All these might be looked upon as good arguments for the aqueous theory; but admitting them all as unobjectionable, this theory still only accounted for the formation of some of the many appearances presented in mineral veins. There were still a vast number of known phenomena which left it unexplained. It left, for example, those connected with *pseudo-morphism*, quite unexplained, and also some other appearances which were distinctly unexplained under this theory. It also offered no explanation of the fact, that metallic substances were often formed on a material which was afterwards entirely got rid of, passing from the inside of the metallic formation to the outside, and thus appearing again in a new form. That was a process impossible under mere aqueous action; and the Wernerian theory, therefore, left the subject of replacement quite out of the question. It also left unexplained such phenomena as that of metallic salts and pure metals being found embedded and crystallised in solid quartz and granite. In many cases, the sulphurets appeared under these conditions in rocks evidently of volcanic origin, and plainly showing that the influence of water could not possibly have had the slightest share in their formation.

There was also a number of other objections which prevented the Wernerian theory from being generally admitted. One of the most important of these was, that it left unexplained the existence of veins as regarded the presence of the gangue, and the whole question of the direction of the veins. There was no reason, if the veins were filled up by the agency of water, why open gash veins in the same district, and intersecting each other at various angles, should be filled with different materials; or why right running veins, cross-courses, and counters, should not present precisely the same conditions, or why unusual richness should accompany a change of country, or the intersection of cross-courses. The Wernerian explanation might be true, and he believed was true, in some cases; but it did not answer all the conditions of the problem, and was inapplicable as a theory, properly so called.

A directly contrary idea was started by the opponents of the Wernerian theory, which was known by the name of the Huttonian theory. This was founded upon the fact, that the appearances presented by igneous rocks, such as granitic rocks, basalt, and others, indicated that they owed their formation to the direct action of heat, which was supposed to exist at considerable depths beneath the surface. It was also surmised, that crevices were formed by the thrusting up of matter from below, and were occasionally the means of igneous matter being brought to the surface; that the filling of these crevices was a matter of igneous origin, and produced directly by injection, or by the sublimation of particles of matter on the walls of the veins. No doubt this might happen in mineral veins, as well as in *dikes* or *clevens*, which were broad open fissures, filled with materials different from the rocks on either side, and in which the effects produced on those side rocks were conclusive evidence as to the nature of their origin. If, for instance, it were found that a crevice was filled with crystals, and that the surrounding rock was not crystallised; if the filling consisted of an entirely different material, offering undoubted evidence of having regularly cooled, beginning at the exterior, and terminating at the centre; if the rocks which inclosed this matter had been melted at the point of contact, and exhibited less and less of the action of heat, until such indications died away altogether—changing limestone into marble, and hardening it in various degrees for some distance, there would be no difficulty in coming to the conclusion, that the dyke, or vein, had been filled in by injected matter, upheaved from below. But, if nothing of this kind had taken place, the filling of the vein could not be so easily accounted for. When applying this theory of injection, the process of sublimation which belonged to it, must not be omitted. Sublimation is the cooling of the particles of metal, or of the metalliferous ores thrown up into crevices too small to receive the melted mass, just in the way that vapours were collected in the neck of a retort, and the crystals obtained at a convenient place near the extremity where it was kept sufficiently cool.

Taking this, then, in company with the process of injection, let them see  
 what was accounted for, and what not. True it was, that in veins there were  
 substances which there was no reason to suppose that water could not dis-  
 solve; but, then, there were others—as, for instance, this mass of pure copper  
 (laying his hand upon a specimen)—which there was at present no reason to  
 suppose water would touch, but which fire would affect: and which, by the  
 application of heat, would be carried off in vapour, and might collect in some  
 device, and reproduce the metal. Such things were possible, and this theory  
 accounted for many appearances of that nature; but it was not true that the Hut-  
 chinsonian, or igneous theory answered all the conditions of the problem, any more  
 than the Wernerian, or aqueous theory. In fact, so much of the latter as was  
 true, interfered with the universal application of the former. One great argu-  
 ment in favour of the igneous theory, was the way in which certain metals  
 are found in reference to other materials. Assuming, for instance, the possi-  
 bility of metallic matter being thrown up in a state of vapour, and re-forming  
 the walls of a vein; it might be readily imagined, that after a time, if that  
 maturation were cut across by a communication from below, another metal might  
 be thrown up, and form upon the first; that would, doubtless, account for many  
 appearances which were at variance with the aqueous theory of deposition.  
 On the other hand, there were many phenomena which were at issue with the  
 aqueous theory of sublimation and injection; it would not account for the ac-  
 cumulation of metalliferous matter in particular parts of the vein, nor did it  
 explain the cause of the definite direction of veins, or the actual relations of  
 these veins which cut across others. So, also, the fact, that there was more  
 metalliferous produce from veins which run east and west, than in those which  
 run north and south—that a vein became richer when it crossed another—or  
 the dissemination of native metals through the surrounding country were all  
 unexplained. Doubtless, the igneous theory was, in some respects, true,  
 it was insufficient in itself to account for many phenomena. Some geolo-  
 gists had thought it probable, that the igneous and the aqueous agencies had  
 acted in action together: but even this did not quite account for all the facts.

These theories had been long discussed, and others put forward, which were supported more by argument than by observation; but it was not until a recent period that any attempt was made to account for the direction of veins, and the circumstances under which they became rich. There was nothing in the theories he had mentioned which pretended to account for facts so remarkable as the influence of particular compass bearings on the value of veins. Some years ago, however, Mr. R. W. Fox, a gentleman of great celebrity in his researches in electricity and galvanism, attempted to explain these facts; and, after many curious and valuable experiments, put forth the electrical theory. He imagined that currents of heated water were continually ascending and descending, and depositing minerals and metals in different forms and conditions, according as it was acted upon by electrical force. This was a new theory in its way, and might be regarded as the first attempt to explain the direction of veins, and others of their more remarkable phenomena. It involved such an explanation, because where the crevices run at right angles to the current, there would, of course, be greater electrical action. The result of his experiments had proved that electrical action had a powerful influence in the direction of crystals in a regular manner. In fact, this idea was carried out to a great extent by the conditions to be found in Cornwall; and, if it were not applicable to other parts of the world, it certainly served to explain many important appearances. There were, however, one which it did not seem to account for—it left *pseudo-morphism* still obscure. It did not account for the presence of sulphurets, or the connection of sulphurets with each other. It could not explain the dissemination of native metals; and it assumed in every case the presence of a quantity of soft clay, or *floatans*, in cross-courses, and this, though true in Cornwall, was by no means universal in cases where the minerals put forth their most marked peculiarities. It was evident that, to be true, the theory of veins must be universal in its application. They had then posited of aqueous solution, and of igneous injection; and they had an electrical theory to account for many facts not explained by either of the other hypotheses; but all

these required something to connect them with each other. The theories he had described were the only ones put forward with any distinct evidence to support them; and there had been no attempt, that he was aware of, to form them into one theory, which should account for all the phenomena. He would, therefore, in conclusion, give a general idea of his own views on the subject, which were derived from a consideration of the nature of *polar forces*, and in which he endeavoured to combine the electrical theory with the others. By this means, he thought his hearers would appreciate in some measure the nature and origin of the various phenomena, in whatever part of the world they might be met with. He took, then, the imponderable agents—heat, chemical action, and electricity. Each of these was the cause of motion, but each in its own particular way. These forces were probably, in fact, only one force; and all, it must be understood, produced molecular change. Whether, therefore, these three agents were applied together, or singly, a change took place in the atomic condition of the bodies in which they acted—a molecular change, inducing a re-arrangement of the ultimate particles. In reference to this subject, there were several well-known facts, which had been made out and proved, both by the chemist and physicist—he meant those which related to the action of terrestrial magnetism.

It was known that the whole crust of the earth must be regarded as a film of matter forming the external surface of a large globe, and that there were certain powerful forces at work, which were known generally by the term electricity. What it really was they did not know; but they recognised it in its effects. It was found to have reference to poles—not the north and south poles of the earth, but two distinct sets of poles, neither of which went through the poles of the earth, nor through its centre. These poles had reference to the condition of the surface, and not to that of the whole mass of the earth. It was also now known, that this force had reference only to a moderate depth below the surface—neither above the surface, nor far below it; at least it was not probable that there was any electrical action below the external film that affected the surface itself. It was also the case that this force did not act chiefly at the surface of the earth. This subtle current, traversing the earth's crust in this manner, affected every material of which that crust was made up. If this were the case, it might be easily understood how various materials were associated in the earth's crust, as some of the oxides for instance. It was also easy to imagine, that crevices having been produced, certainly in relation to the physical structure of the earth, and having a north and south direction, should be cut across by transverse fissures. The electrical action would then tend to produce metallic ores, and to arrange them in the crevices in reference to their different electrical states. Those which were in a native state would occupy one position, and the salts another; and there could be no doubt that all this again helped to carry out and explain the various phenomena in a remarkable manner. No person who has ever seen mineral veins could, for a moment, doubt that molecular change had gone on with regard to them. This molecular action produced segregation, and a consequent re-accumulation of the particles.

How this could take place in solid matter might at first seem difficult to comprehend; but to understand this, we had only to consider what it was really understood by solid matter. There was no matter so solid but it was capable of compression; and, if so, it must contain spaces, through which other matter might pass. They had examples of segregation occurring in masses and solid bodies, deposited in new places in all parts of the earth, and in all sorts of ways; for instance, masses of cretaceous matter, or chalk, were found, with a quantity of silex, disseminated in the chalk, and with them a certain quantity of iron. These substances would be deposited at the bottom of water, and the silex separated from the chalk by a process of the nature of segregation. After that the iron would separate itself, and pass through the particles of the chalk. This was a case which often presented itself in nature, and in which it was quite clear, that the iron must have been separated, in order to accumulate itself in a crystal shape at the back of the other materials. The theory of polar forces, then, must be referred to in any attempt to explain these phenomena; and he believed that it would ultimately be found to account for all the circumstances, and serve to connect the other theories, which, however, were each of them true for particular cases.

The theory, then, which he thought might be safely proposed with regard to the filling of mineral veins would stand as follows:—Firstly, that the veins themselves are of purely chemical results, either of subterranean disturbance, depending into great depths below the surface, or of contraction, sometimes penetrating to great depths, but generally terminated below. Secondly, that metamorphism, and other fissures, have reference to the main lines of dislocation, observable in the direction of mountain chains, and other great world phenomena. Thirdly, that the fissures thus formed have been like the rest of the earth's surface, subject to the action of magnetic currents, and that they have become receptacles in which re-arrangement might conveniently act, and particles assume a crystalline form in their natural order. Fourthly, that the materials abundantly present in the earth's crust, or elaborated, according to the action of chemical laws, have thus arranged themselves in those forms which circumstances have demanded. Fifthly, that, in many cases, this has gone on during long periods, involving change; and that thus the phenomena of *pseudomorphism*, and the association of metals, have taken place. And, lastly, that we must look to electro-chemistry, studied with reference to rock masses and complicated metallic results, for the means of advancing these investigations; and that distinct observations in mines must be recorded, in addition to experiments in the laboratory.

These were the general views, which, in the present state of things, he held regarding the killing of mineral veins; and he put them forward, not as entirely sufficient, or satisfactory, but because it was advantageous to have a theory of some kind, and this he thought was as near the truth as the present amount of investigation would take them. It was, however, an advantage to have a theory, as it served to collect and hang facts upon, and also to suggest new methods with regard to the discovery and working of mineral veins, besides raising discussion, and suggesting ideas; and although the theory might not be so nearly perfect as could be wished, it might still form a foundation upon which a more elaborate and consistent structure might be raised.

18.—In your report this week of one of my Lectures on Mining, delivered at King's College, I saw one sentence, which astonishes me, and which, no doubt, will seem equally astonishing to all your readers. It is this:—"The principal lead mines of England were in Devonshire." It puzzled me at first to imagine what could have suggested the possibility of this to your reporter; but, on thinking over what I had said on the subject, it struck me that I must then have been speaking of the *West of England* (Cornwall and Devon); and that I mentioned the new mining districts, on the north side of the Channel, as likely to prove much richer for lead, and the source of cross-currents in that district, than the better known mining ground on the south coast and western extremity of Cornwall.

I may also here take the opportunity of apologising for one or two other errors that I have crept into these reports, which, for the most part, will express my meaning, but which, being taken from lectures somewhat hastily delivered from my memory, and necessarily subject to many misapprehensions. Perhaps, also, your readers who are not conversant with these reports will remember, that they are delivered to a class of college students, and are, therefore, of necessity less technically practical than might seem desirable by those who are themselves busily engaged in the detail of some one department of engineering or mining. I say this, not wishing to deprecate fair criticism, but merely to give my own justification.—D. T. ANSTED: Gloucester-road, Hyde-park, March 11.

MARCH 14.—JOSHUA FIELD, Esq. (President), in the chair.

The paper read was "An Account of the Effect of the Storm of the 6th of December, 1847, on the Four Sea Walls of different forms, on the Coast near Edinburgh, as illustrating the Principles of the Construction of Sea Defences," by W. J. M. Rankine, Assoc. Inst. C.E.

The principal example given was the sea wall of the Leith branch of the Edinburgh Dalketh Railway, finished in the year 1837, built by the author from Mr. Walker's plans. Just after it was completed, a violent storm occurred, which injured almost every sea wall within its range, but produced no ill effect upon that structure. On the 6th of December, 1847, a still more violent storm occurred, which did great damage all round, but the railway wall still escaped without injury. The height of the wall was about 750 yards; its height was 15 ft. above the beach at the highest point, diminishing to about 10 ft. at the lowest level. The height of the top was 4 ft. above equinoctial tide, and the water level. Its least thickness was 5 ft., and its greatest 10 ft.; the back was vertical but the face had an inclination at the lower part of 5 in. 1 ft., gradually becoming as it rose upwards, until at the top it overhung slightly. The foundation courses composed of large flat stones, laid horizontally 4 ft. below the surface of the beach, a stratum of fine sand and gravel, firm & hard dry, but moveable when wet. The wall was of hammer-dressed ashlar, about 2 ft. thick; the back of rubble, 18 in. thick. The interior was filled with concrete. The coping was composed of stones each weighing about 100 lbs., laid on a bed of concrete, the thickness of the concrete was 12 in. The half a ton, connected by means of a chain-iron band. The foundation was of concrete. The face joints were laid in cement to a depth of 4 in. The foundation was composed of a pile of trap boulders, laid on the natural level of the beach. They were partially disturbed by the storm referred to, and the author ascribed this to their not being insufficient to resist the vertical oscillation of the waves.

The second example was a vertical sea wall near Trinity, the foundation of which was acted by a dry stone bulwark, sloping at angles of from 30° to 40°. The wall was destroyed by the storm, but the pitching was breached at several points.

The third example was another wall near Trinity, of a hyperbolic section. The lower part had a slope built dry up to a little below high-water mark. At this point there was a curve, and the upper part was nearly vertical, and level in mortar. The waves acted the stones of the lower part, and the upper part, being undamaged, was carried to a great extent. The last example was the bulwark of the Granton Railway, the lower part of which sloped at about 20°; the upper portion was curved, and was acted by a heavy projecting string course and parapet. It was built dry, and the stones of the lower part weighed not less than half a ton each. This bulwark suffered damage to a great extent in its upper portion.

The examples were stated to confirm the following principles:—That the principal cause of the waves in the front of a sea wall was a vertical oscillation, produced by the reflection of the direct and the reflected waves; that the force along the top of a sea wall was due to the action, reaction, and friction of the water which projected above the line of the wall; that the strength of a sea wall depended on the pressure of the superincumbent masonry; and the adhesion of mortar and cement, the position of greater stability being horizontal; and that, when the six-inch dip relied on the weight of the individual courses, the amount of ground covered by the wall was very fastidious.

No occasion which ensued, instances were adduced of the duration of vertical oscillations under the attacks of heavy seas; and, on the other hand, of their destruction when



## Mining Correspondence.

## ENGLISH MINES.

**ANTIMONY AND SILVER-LEAD MINES.**—Capt. Edward Richards, in his report, states:—"I went to Tregear Antimony Mine yesterday, and found the men were sinking a shaft 5 or 6 ft. south of the pit in which the antimony was in sight. They had just cut the lode in the shaft. Coarse rocks of spar are always found with antimony lodes; and so it is at Tregear. There is a great deal of corroded, or rotten antimony, which is always the case, until the lode gets down in the solid ground, that is to be seen in the parts which are open; and so it is in the west end of the shaft now sinking. There are very good stones of antimony, covered with corrode, now to be seen; the ground is very good about the lode, from the appearance of so much coarse spar, quantity of corrode, or decayed antimony—good kindly ground, and fine stones of antimony ore. The mine is well worthy of a trial, and, in my opinion, will turn out a profitable investment. There have been several tons of ore sent to London. The shaft they are now sinking is 15 ft. to-day. From the prospects at present, the mine ought to be prosecuted with vigour; the lode in the shaft is 4 ft. wide, of solid antimony." The following is the assay of some of the antimony ore sent from the above mines to John Ryan, Esq., M.D., dated, Royal Polytechnic Institution, Feb. 12, 1848:—"I hereby certify, that I have examined the specimen of antimony ore sent to me for analysis; the ore is very valuable, and will yield upwards of 70 per cent. of pure antimony."

**BARRISTOWN.**—There is no change in the old mine, except a slight improvement in a tribute pitch, in the back of the 18 ft. level. In the adit end east the lode is producing about 1 ton per fm.; we are also working two pitches in the back of the adit level, behind the end, which are producing about the same quantity per fm. The water is drained in the eastern flat-rod shaft, and men are now sinking it at 5 ft. per fm.; the additional rods do not effect the engine in working the crusher.—March 11.

**BEDFORD UNITED.**—At Wheel Marquis, the lode in the 90 fm. level, east of the sump winze, is 3 ft. wide, and worth 40L per fm.; in this level west there has been no lode taken down; the lode in the rise, in the back of the 90 fm. level east, is 3 ft. wide, and worth 12L per fm.; and in the stopes, in the back of this level west, the lode is still worth 18L per fm. The lode in the 80 fathoms level east is 2 ft. wide, producing some saving work. In the 70 fm. level east there has been no lode taken down; in this level west, on the south lode, we have cut through the cross-course, but the lode has not yet been seen. The lode in the winze in the 47 fm. level west, on the south lode, remains without alteration. In the 25 fm. level, east of the south engine-shaft, the lode is 2 ft. wide, producing good stones of ore; and in the adit level east, on this lode, the lode is without important alteration.—March 15.

**CARADON WHEAL HOOPER.**—The engine-shaft, is sunk 5 fms. 1 ft. 6 in. below the 50, and is now altogether in a compact bed of granite, which is strongly mineralised; several branches are crossing it, composed of mundie, spar, and peach, with much pryan, can, and copper; all of them are kindly branches; no practical miner can doubt of a paying lode to the 60, and of the shareholders being remunerated for their spirited outlay; of which, I must say, they are well deserving, as no mine in this neighbourhood has been more legitimately worked. I am of opinion, that we shall yet have copper to the 50 that will pay us for sinking the shaft to that level, and all our drivings, &c. We have a good ore lode gone down in the bottom of the 50, which was quite unexpected. We have not as yet cut the large lode south, but I hope we shall see it soon, with a good course of ore in it. We have met with several small branches in the cross-cut, all of which contain copper; therefore, we may reasonably expect something like a paying lode in this, especially as we had a quantity of copper in the lode we cut quite opposite, for 6 ft. on the course of the lode. Before we cut the slide, where we shall cut this large lode, we should be driving on the course of the lode, but we sufficient air. We have, it is expected, about 5 fms. more to drive to the Sawpit shaft; this will be completed in about seven weeks, when I fully expect to see a good lode; in this cross-cut we have also met with branches containing copper, can, &c. Under our present circumstances, this mine never had a better aspect than at present; therefore, I say to one and all of the shareholders—hold on your shares, or you will regret parting with them. The south part of South Caradon is looking well. Some of the same lodes are passing through Wheal Hooper. Clymo's is a parallel lode with Hooper's lode. All the ore in this district has a southerly dip. Judging from analogy, Wheal Hooper is the identical spot to meet with copper. I hope the present holders will hold on, and see the result of the two lodes we are now shortly expecting to cut, and I have no doubt but that they will have to thank me for this counsel.—March 11.

**COATLITHE HILLS.**—During this week, the men have been employed in sinking a winze on Coatlithe Hill vein from the bottom of the level, north of the horse level, and have sunk about 4 ft. I expect to get to the bottom of the plate stratum by the end of next week.—March 11.

**DEAN PRIOR AND BUCKFASTLEIGH.**—The sumpmen have completed the dividing and casing down the engine-shaft to the 30 fm. level; having commenced drawing with the machine-whim in that level, will enable us to make a greater progress in cross-cutting towards the lode. In the 20 and west we are still driving on the south part of the lode; there is every appearance of the lode changing for the better, being a strong champion lode; in the pitch, in the back of the level, the lode is still looking well, and producing good saving work. I have also to inform you, that we have put the crusher to work; and, although some of the work is of a very hard nature—that is, intermixed with capel—yet it gives me great satisfaction to be enabled to state, that the crusher works extremely well—therefore, we shall get on with the dressing, with all possible speed.—March 15.

**EAST CROWDALE.**—The ground in our engine-shaft continues favourable for sinking; it is a clear killas, and is much better ground than we have had for a great number of fathoms; we have sunk the past week 5 ft. The end driving in the 47 fm. level west, on the north lode, is very much improved in appearance the last few days; the lode is about 1 ft. wide, composed of spar, pryan, and ore, and very likely to increase in size and quality; the stopes in the back of this level look well—a large ore lode, upwards of 2 feet wide. I shall be able to say more about this place in my next, as there will be more lode taken down.—March 11.

**GALLOWAY.**—We have been coasting south on the north and south lode, leading from the old workings near the river, which communicate with said workings—hitherto the lode is small; and, although spotted with lead, I do not consider we have found its bearing point. We propose to drive north at the bottom of the first shaft we sunk, with a view to intersect the east and west lodes, as each of the north and south ones appear unproductive hitherto.

**GREAT MICHELL CONSOLS.**—The lode in the sump-winze is from 7 to 8 ft. wide, 2 ft. of which, on the north part, are producing saving work, and the general character of the lode throughout the winze is very promising. In the 35 fm. level, west of the sump-winze, the part of the lode being carried contains capel, spar, and mundie, with a small portion of copper ore.—March 15.

**HEIGSTON DOWN CONSOLS.**—The shaftmen are now driving the 20 fm. level east of Bailey's engine-shaft, in which the lode is 3 ft. wide, producing saving work for tin; the water is gradually falling back, and I hope soon to be able to resume sinking the engine-shaft; the adit end is much the same as when last reported.

**HERODSFOT.**—The engine-shaft is sunk about 2½ fms. under the 94; the ground is favourable, and sinking by nine men; I expect this shaft, including pit-work, &c., cost about 50L per month, which sum I think may be spent to a better advantage in forcing the levels, and the whim being drawing ore, instead of drawing attle from the shaft; the 92 fm. level is driven about 4 fms.; the lode is only cut through in one place, where it will produce about 8 cwt. of lead per fm.; the ground by the side of the lode is good for driving, and I think is equally as likely to make as good a lode in this level as it is in any part of the mine. The 82 north is driving by four men—price, 3L per fm.; the lode is 18 in. wide, composed of spar, capel, floukan, and lead, producing about half a ton of ore per fm.; this level, for upwards of 20 fms., till within the last 12 ft., having been rather poor, I advised putting up a rise to prove this ground, which I think will be found to contain lead; the 82 south is driving by four men, and good ground; the lode is producing about half a ton of ore per fm.; there are three pitches working in the back of this level, four men in each pitch, all at 40s. per ton for raising lead. The lode in the 72 north will produce at least one ton of ore per fm.; two pitches are working in the back of this level, behind the end—one at 3L 10s., and the other at 2L 10s. per ton, and I should think the men are getting fair wages; I could not see the main part of the lode—the cross-cut in the 72 south being filled with attle for the time; but the captain tells me it is a leady lode; here we have driven on a branch for about 10 fms., diverging from the main lode a little west; the main part of the lode is standing east about 12 ft. which is now being stripped down, where the lode will produce about two-thirds of a ton of ore per fm.; there are two pitches working in the back of this level at a low tribute, and men getting fair wages; a pitch has been worked from the back of the 72, and now gone above the 62, which has proved the 62 fm. level was not driven on the main lode, but is a branch, or lode, to the east of it, from which some lead has been raised; there is a good lode in this pitch at present—tribute, 3L 10s.—now about 3 fms. above the 62. The lode in the 62 north will produce one ton of ore per fathom; a pitch, working close behind this end, will produce about the same quantity; here the lode is not near so good as it was; this is what was termed the rise. There is nothing doing in the 52, or in Windsor shaft. In conclusion, I beg to remark, that I consider this mine much improved since I last inspected it; and there is no question that the mine paying dividends, if the stuff could be got to surface.—March 9.

**HOLMBUSH.**—The lode in the 120 fm. level south is 4 ft. wide, composed of spar and lead, worth 8L per fm.—at present, a very kindly lode, and promising further improvement; the lode in the north end, in this level, is 5 ft. wide, the principal part of which is spar, floukan, and pryan, with stones of lead; the pitch, in the back of this level, is producing some very rich lead ore. The lode in the 110 fm. level north is 3½ ft. wide, composed of quartz, and stones of lead, opening tribute ground; the lode in the south end, in this level, is 6 ft. wide, composed of quartz, and stones of crystallised lead, which we think is rich for silver; at present yielding 6 cwt. of lead per fm., with favourable ground for driving; the lode in the stopes, in the back of this level, is also

large, composed of quartz, and stones of lead; the pitch, in the back of this level (north of the stopes), is producing some very good lead. The lode in the 100 fm. level south is 2 ft. wide, composed of spar and lead, worth 6L per fm.; the lode in the winze, sinking below this level, has not been taken down since we commenced sinking. The flap-jack lode, in the 100 fm. level east, is still divided in two branches, making two regular walls, 3 ft. apart; one of the tribute pitches, in the back of this level is improved, the other pitch is much the same as it has been for some time past. The lode in the 90 fm. level south is 2 ft. wide, composed of spar and stones of lead.—March 14.

**KIRKCUDBRIGHTSHIRE.**—The lode in the 50 fm. end, driving west, is 4 ft. wide, producing 12 cwt. of lead per fm. The lode in the 40 fm. end west is 3 ft. wide, producing 1 ton of lead per fm.; the lode in the end east, on the caunter, in this level, is about 2 ft. wide, spotted with lead. The lode in the 30 fm. level east, on the main lode, has not improved since my last. At Keith's shaft we have finished cutting the plat, and are driving west to get this end a little out of the way before we resume sinking; the lode here produces about 1 ton of lead per fm. We expect to be in a position to resume sinking Keith's shaft by the end of another week.—March 11.

**LEWIS.**—In the 70 fm. level we are continuing to open the plat, and expect to complete it about the middle of next week; immediately after which, we shall commence to drive south towards the south branch. The lode in the 60 east is 3 ft. wide, and opening good tribute ground. I think the tributors in the 50 and 60 ends east and west, on south branch, are making fair wages at their average tributes of 5s. 6d. The lode in the 40 end east is much the same as last reported. The lode in the 20 end east is 2 ft. wide, producing fair quality tinstuff.—March 11.

**MENDIP HILLS.**—The ground in the 38 fm. level continues hard for driving, and the lode presents much the same appearance as when I last wrote you, being about 3 feet wide, composed of spar, iron, and limestone. In the slag ground we continue to lay open the cutting in the centre of the valley, to extend the tram-road towards the more productive part as far as possible—in some parts of which we find some good beds of slag, and at others it is intermixed with layers of mud, although it is improving in quantity as we proceed upwards.—March 13.

**SOUTH DOLCOATH.**—I went underground in the above mine last Saturday, and was much pleased to observe the favourable alteration which has taken place in the underlay of the lode, where it has been from 21 in. to 2 ft. in a fm. from the surface to near the bottom of the shaft; it is now only 6 in. in a fm.—the lode is about 5 ft. wide, composed of a strong iron gossam, soft spar, mundie, and spots of copper ore—a kindly lode for copper ore in depth.

**SOUTH WHEAL TRELAWNEY.**—Shell's engine-shaft is in course of sinking with nine men; the ground is still favourable—strata, a deep blue killas. The water is just the same as it has been for some time.—March 13.

**TINCROFT.**—In the 100 fm. level, east of new engine-shaft, the men are still driving through the cross-course; no alteration in the west end of this level since our last report. The lode in the 90 east is 3 ft. wide, producing some ore, and kindly; the lode in the 90 west is 20 in. wide, saving work for ore, with a great deal of water proceeding from the lode, which is a favourable omen for ore being near at hand. The lode in the 80 east is 3 ft. wide, worth 16L per fm. for tin; the pitch, in the bottom of the level above, have very much improved for tin since last report; and a pitch, in the back of the 60 west, has improved very much for copper ore, and it is likely that the branch will dip down before the 80 and west, which end has been suspended for the last two months; I can speak of no particular alteration at Palmer's since last report. At the south mine, the 142 east, on Highburrow lode, is producing tinstuff, and improving as we extend east. The 120 west, on Martin's lode, is producing ore, and very kindly; we shall soon see what this lode will make to the east of the cross-course; the stopes, in the back of the 120, continue to produce good work for tin; the pitches throughout the mine continue much the same as for some time past. The 90 end west, on Chapple's lode, is at present unproductive; the pitches, in the back and bottom of the level, are producing good ores. At Wheal Providence, we have set to drive east and west on the lode in the 84 fm. level—the lode is large and kindly, with some good spots of ore. We are making preparations for clearing a cross-cut, driven north in the adit level, and for clearing the 21 fm. level east and west on the course of the lode. The tributors, in this part of the mine, are likely to make fair wages at their different tributes. I hope we shall get nearly 300 tons of copper ore for our next sampling.—March 13.

**TIN VALE.**—I have to inform you, that on Saturday, the 26th ult., I received a letter from Capt. William Lean, manager of the Holmbush Mine, to be prepared for him to inspect the Tin Vale Mine, on Monday, the 28th ult., by 9 o'clock A.M.; and on the said day he came and inspected the different lodes, both tin and copper. We shall be better judges when we see his report, how he likes it; he did not go into Floyd's adit, but it appeared to me that he was well pleased with the mine and its proceedings. John Stocker and Co. have driven through a very hard bar of elvan in Rose's adit; they are now driving in white granite, the ground is rather hard—so hard, that I am giving 30s. per fm.; the men are doing all in their power, under the expectation with myself, that when we intersect the great tin lode, we shall have an abundance of tin to pay our proprietors handsomely for their outlay. Thomas Porley and his partners, on the middle lode, are opening tribute ground very fast; I intend to set another pitch on the middle lode on Saturday, that being our setting-day for March month; the lode in the present end is 2 ft. wide, composed of pryan, felspar, quartz, mica, and tin—a kindly lode indeed; the ground by the side of it is a soft decomposed granite, and at this time the men are driving the end for 25s. per fm. The tributors on the north lode, in Rose's adit, I believe have done very well (I mean have earned good wages); we shall soon prove it, as I have commenced washing their tinstuff for the stamps. Charles Colwell and Co., in Floyd's adit, are rising 15 ft. behind the present end in the back of the adit, and are breaking good tin, fit for the stamps; this said rise I intend to hold up to the surface, as the air is very bad in the present adit end. Our stamps are in complete order, and working in a first-rate style; and the streamers are getting about them a good batch of tin, and I hope soon to get a round pile from the stamps, so that they may both go into the market together.—March 2.

**TRELEIGH CONSOLS.**—The 120 cross-cut, north of Christo's, is driving towards the lode. In the 110, east of Christo's, the lode is 2 ft. wide—with out mineral. In the 100, south-east of ditto, driving to cut the lode we have in the 110. Garden's shaft, below the 100, is now in the country; the lode has inclined to the north of the perpendicular. In the 100, east of ditto, the lode is 2 ft. wide, but very little ore; in the rise, above the 100 west, the lode is 2 ft. wide, with stones of ore—this will be holed in a day or two. In the 90, west of ditto, the lode is about 20 in. wide, worth 6L per fm. In the 80, west of ditto, the lode is 2 ft. wide, worth 5L per fm. In the 70, west of ditto, the lode is 2 ft. wide, worth 18L per fm., and has a promising appearance; in the rise, above the 60, the lode is 3 ft. wide, worth 6L per fm. In the adit, east on Wheal Parent lode, the lode is about 2 ft. wide, worth 6L per fm.; the adit north, from Wheal Parent engine-shaft, is driving to cut Wheal Orphan lode. We expect to sample next week about 140 tons of copper ore.—March 11.

**WEST WHEAL JEWEL.**—No lode taken down on Wheal Jewel lode, in the past week. No lode taken down in the shallow adit, on Tolcarne tin lode, in the past week. In the deep adit, west of Quarry shaft, on Tolcarne tin lode, the lode is 15 in. wide, worth 6L per fm. In the stopes, east of Pryor's winze, on Tolcarne tin lode, we stopped last month 6 fms. In the stopes, west of Pryor's winze, in the back of the 12 fm. level on the same lode, the lode is 5 ft. wide, worth 35L per fm.—stopped last month 5 fms.

**WEST WHEAL MARIA.**—The western engine-shaft is down below the 64 fm. level about 5 fms., the ground in which is still favourable for sinking. The stopes, in the back of the 54 fm. level, we hope to complete about a fortnight from this time.

**WHEAL ADAMS.**—We have cleared and secured the new engine-shaft 4½ fms. below the 50 fm. level, at which depth the ground and timbers are firm; I regret, however, we are compelled to suspend the operations whilst the tributors' ore is being drawn to keep the dressers employed—during which time the shaftmen will be engaged in stoping the quartzose lode, south of the rise in the 50. The jack lode in the 40 fm. level is very much improved; it is at present 2 ft. wide, ore throughout. The lead in the back of the 18 fm. level is replaced by black oxide of copper, the vein of which is about 6 in. wide, of good quality. Our last parcel of lead ore was sold to Messrs. R. Michell and Son, at 10L 14s. per ton. We send as usual our setting sheet for March month.

**WHEAL MARY ANN.**—The lode in the 40 fm. level, south of the boundary, is 15 in. wide, composed of can and some lead. The lode in the 30 fm. level, south of Barratt's shaft, is 2 ft. wide, and worth 7L per fm. The 15 fm. level, south of Pollard's shaft, is suspended for a short time; and the men are stoping in the back of the 30 fm. level, to assist our sampling; the stopes are looking well, but the lode at present is hard—consequently, we are not breaking lead quite so fast as we anticipated doing. We have not yet cut the lode in the 30 fm. level (this is quite contrary to our expectations from the underlie of the lode in the upper levels); but it frequently occurs where the underlie, or inclination, is but little, that the lode drops downright in certain places, which must be the case here, as we have but a few feet more to drive to get under the perpendicular of the 15 fm. level; this I consider a good omen, as the lode in Trelawney, where it has been rich in many places, is nearly perpendicular; and I hope that such will be the effect here, against our meeting of next week.—March 14.

**WHEAL TRELAWNEY.**—The cross-cut extending from Phillips' shaft eastward, is now driven 6½ fms. In the 62 fm. level, the men continue to work spiritedly, and the ground is still favourable. The lode in the 52 fm. level north is worth 10L per fm.; in this level south, the lode is large, and producing fine stones of lead, with can, &c.; the stopes in the back of these levels are producing a fair quantity of lead. The lode in the 42 north is worth 13L per

## GEOLOGICAL SOCIETY.

MARCH 9.—Sir H. T. De La Beche (President) in the chair.

A paper "On the Position in the Cretaceous Series of Beds containing Phosphate of Lime," by R. A. C. Anstey, Esq., was read. In a letter in the *Gardener's Chronicle* of the 10th of Feb. last, Mr. Faine, of Farnham, gives an account of some strata in which phosphate of lime occurs in sufficient abundance to render it of importance to agriculture, and the author expresses a hope, that the notice may lead to the successful search for like underground wealth in other parts of the country. The present paper is written in full fulfilment of that hope. Many observers, as Mr. Brongniart, Dr. Buckland, Sir H. De La Beche, and Dr. Faine, have noticed the occurrence of phosphate of lime in the gault. The author has also noticed them in his account of the vicinity of Guildford. The important part of the retrieved discovery is, therefore, only that this substance is so abundant as to have great economic value. Near Guildford, phosphate nodules are abundant in the upper greensand. In the gault below, concretions of phosphate of lime are not so uniformly diffused, but occur in two seams—one in the argillaceous portion of the bed, the other very low in the mass. Both beds are very persistent; but, in consequence of the undulations of the strata, along the base of the component of the North Downs, it is only a few places that will repay those who may look for this mineral substance, the siliceous and gypsiferous beds being often far below the surface. The phosphates have been found beneath Newland's Corner, near Guildford, at Puttenham, and other places. The greensand and gault at Farnham, also, contain beds productive of phosphate of lime. The nodules have the form of coralloids, but differ from these bodies in internal structure.

A paper "On the Presence of Phosphoric Acid in the Subordinate Members of the Chalk Formation," by J. C. Neale, Esq., was next read. From the marl near Farnham, there was obtained, by washing, a substance evidently coralloid, containing 23 per cent. of phosphoric acid, while the general mass contains as much as 2 to 3 per cent. In some nodules, from the gault near Madderstone, so much as 23 per cent. was also obtained, and some nodular masses of shells from the Shanklin sands showed 13 per cent. of this important substance.

An "Outline of the Principal Geological Features of the Salt Field of Cheshire and the adjoining districts," by G. W. Ormerod, Esq., was next read. The salt measures are exhibited in the best manner in a line from Alton to Middlewich and Northwich, and along the lower valley of the Weaver. Near Congleton and Church Lawton, the saltiferous and gypsiferous beds have a thickness of about 600 feet. At Northwich, the beds have been sunk into 500 feet; and at Middlewich, where they underlay the former 300 feet, or above 800 feet in all. The salt water in some places oozes on the surface naturally; at other places, is found by boring often below the level of the sea. At Middlewich, the water contains about 2½ lbs. of salt in a gallon. Where the salt has continued to be washed out from the interior of the earth for a long period in this manner, the ground above often cracks, and considerable changes of level take place, interfering with the drainage and navigation, and occasionally submerging large tracts of ground, so as to form lakes.

## COPPER MINES OF LAKE SUPERIOR.

The produce of some of the mines of the Lake Superior district is truly astonishing, and it would seem there is yet much to learn as to the extent of the riches of this district. The Boston and Pittsburgh Company shipped during the past season—

Per schooner <i>Jena</i> , in the spring .....	Tons 44
Per propeller <i>Glenn</i> .....	180
Per ditto <i>Chicago</i> .....	120
Per S. B. <i>Sams</i> , Ward .....	52
Per schooner <i>Jena</i> .....	44
And the Champion will bring .....	60 more

Making in all the amount .....

This is native copper, and averages over 80 per cent., and is sold in Boston at 16c. cents per lb., of copper, the purchaser smelting it at his own expense. The net proceeds of this ore will amount to about \$115,000, and the expense of working the mine for a year is just about \$50,000, leaving for dividend this year \$65,000. From all that we can learn, although the idea "that the whole country is filled with copper, and that you cannot go through the woods without stumbling over it" is most absurd; still also it is perfectly true, that immense masses of native copper have been found, and that more are daily being developed, in veins running for miles throughout the country. Equally foolish is the idea that, where pure native copper is discovered, there is no good reason to expect important deposits of copper ore. This latter idea is often advanced by persons who affect to be learned in the business of mining and the doctrines of geology; but when closely questioned, their experience is found to vanish into the opinions of others, or narrow down to the working of one or two mines of yellow copper in clay-slate or killas; whereas, had they ever visited the mines of Cuba, or even seen Carn Brea or Fowey Consols in Cornwall, they would have come to a different conclusion.

In the second place, although copper is not to be found everywhere on Lake Superior, its existence in vast quantities, enclosed in strong, well-defined metallic veins, cutting through the whole substance of the rocky strata for miles and miles inland, is no longer a problem. The discovery of some 20 or 30 boulders of native copper loose upon the surface, the larger of which varied in weight from 1000 to 4000 lbs., has led to the discovery of masses of copper ore in the above-mentioned veins, varying in weight from 2000 to 80,000 lbs. Numerous veins yielding copper of this description have been explored, both in length and depth, to such an extent, as to leave no doubt of the existence of immense similar deposits. Many consider these deposits of native copper very extraordinary, and so they are; but they are not altogether unparalleled. At the Copper Mine River, in the far north-west, copper boulders are far more numerous than on Lake Superior. Similar deposits of native copper have been found very abundant in the Medol Islands; also in Iceland, Russia, Cuba, South America, and Japan. The mines of Suring, Kyn, Kuni, and Atsingo, have yielded amazing quantities of native copper. Carcasses have been shipped from these mines to the Dutch and Portuguese. And not only cargoes and cargoes of copper, but (if we may credit history) whole ship-loads of gold and silver, derived from the same source, and found in connection with the copper. This extraordinary product formerly constituted the wealth of many whole provinces, and is at present by no means exhausted. Here then we have, as it were, a "fac simile" of Lake Superior, except that the copper of Suring contained a large percentage of gold. Other things being in harmony, should we not reasonably expect to find gold with copper on Lake Superior? We answer, yes; and can add, on the authority of our respected informant, that it is thus found. On making a cross-cut, on Prince's vein, on the main land, and north shore of the lake, native copper was detected, which, however, soon gave way to vitreous or grey sulphur of copper, and that in turn to metallic silver, with which is found a portion of gold. Instead of this being something extraordinary, it is just what ought to be expected, in order to make out the harmony of nature, whose laws are uniform and constant. The occurrence of silver on Lake Superior, is nearly as frequent as that of copper, although not in such large quantities.

Not a few, and especially Cornish miners, have expressed great fears that there would not be found a supply of the ordinary yellow copper ore on Lake Superior, in addition to the native copper connected with the silver. Such persons may rest assured that there is no foundation for their fears; for if they travel inland, westward and southward from Chocolate River, they will find a country embracing about 2000 square miles, very similar to Cornwall, bounded on the north by the Haron granite mountains, and frequently interrupted by similar ridges, while the valleys are filled up with killas, or talcose, and clay-slates, capels, and elvans, accompanied with quartz veins, loaded with mundie, rich gossams, and not unfrequently with yellow copper and carbonate of iron. In other places, in the same region, may be seen large courses of specular and hydrous oxide of iron, similar to that of Padstow and Lostwithiel, in Cornwall. So close is the resemblance of the rocks in this region to those of Cornwall, that were it not for the heavy growth of timber, one might easily imagine himself located either at Calstock and Kils-Hill, or Dolcoath and Camborne. Both the yellow and the horse-flesh copper have been found in this region, and also lead in a second Cornish vein, with 120 miles of lake coast, abounding with good soil, good lumber, good fisheries, and large flowing rivers, supplying numerous water powers, in addition to its rich mineral resources. Time would fail to mention the numerous discoveries of grey copper ore of the region last described; such as Lake La-Belle, Montpelier Mine, and others. The black oxide, the red oxide, the blue and green carbonates, the rich grey sulphure, as well as the yellow sulphure of copper, have all been found on the American shore of the Lake, near the native copper, and will all be found more abundantly by further excavation. No fear, therefore, need be entertained on account of a deficiency of copper ore.

The most important question, however, is—Can these mines be worked to a profit? We answer—No. With the exception of a few localities, this mineral wealth might, as well be in the moon, or the planet Jupiter, as far as profit is concerned, as on the shores of Lake Superior. First, there is no agriculture, and provisions are double the price they would be, if the miner could have his patch of land as in Cornwall; but the Congress have done all they can to prevent the advance of agriculture, by charging from \$2½ to \$5 per acre for this land, because mineral, while, in richer districts, it can be had for \$1½. Again, the delays and difficulties of transportation at Saint St. Marie are sufficient of themselves to exhaust all the profits of mining. These obstacles have driven capital to the Canadian side of the Lake, where mining is rapidly progressing. It is, however, expected that, to remedy the latter evil, a ship canal will be constructed around the falls of St. Marie, and build light-houses along the shore, which is half the American Atlantic coast; and its fisheries are hardly less important than those of Newfoundland. A great increase of population, of towns springing up, where provisions can be had plentiful and cheap, the working miner must be assisted with his "bit garden," to supply himself with vegetables, a quicker and better mode of conveyance established in this distant region, and, in fact, a new order of things take place, before this highly mineral district can be even partially developed. A new state is about springing into existence, called Minnesota; whose port of entry will embrace the western extremity of Lake Superior. Excellent coal beds exist between that harbour and Red River settlement—a circumstance in itself of the utmost importance, and one which should induce Congress to take a more liberal view of things, particularly in the sale of unreserved lands.

**ALLIANCE AND DUBLIN CONSUMERS' GAS-LIGHT COMPANY.**—We have just seen the profit and loss account of this company for the half-year ending 31st December. The profit, after providing for every contingency, will pay a dividend of about 2s. 6d. per share for the half-year, and this virtually on 3L paid up per share, as the call of 1L was not payable till October, and not much of it paid until November, and none of the income for the extensions had become available in December. This statement will, we have no doubt, be highly satisfactory to the numerous shareholders in Edinburgh.—*Scottish Railway Gaz.*

**MINERS INSURED BY LIGHTNING.**—During the thunder storm last week, at Wheal Roberts Mine, in the parish of Gylvas, as J. and W. Pengelly were at work, 4 fms. below the grass, the one holding the bar, and the other the mallet, they were struck by a flash of lightning. One of them is slightly injured in the elbow, and the other in the head, but neither seriously.

\* So termed by the Americans; it is, however, a red oxide, yielding from 70 to 90 per cent. of pure copper.



**THE STOPS, IN THE BACK OF THIS LEVEL, ARE PRESENTING A MODERATE QUANTITY OF ORE.** The lode in the 32 north is 2 ft. wide, and worth 74 per fm.; the stops, in the back of this level, are a little improved. We are getting on very well in sinking Trevelney's shaft under the 42 fm. level. The cross-cut, east from Trevelney's 22 fm. level, is progressing much as usual. At Vivian's 30 fm. level the lode is 8 ft. wide, and producing gossan, can, and good stones of lead, worth 61 per fm.—March 14.

#### FOREIGN MINES.

**ST. JOHN DEL REY MINES.**—Morro Velho, Dec. 23.—Gold extracted to date—10,624 oitavas, from 431 46-100ths cubic feet of sand—23 66-100ths oit. per cubic foot. Stamps working during 28 days, 68 53-100ths. The supply of stone has been tolerably good; but a great number of borers, as likewise of spallers, being now either in hospital or on the convalescent list, the supply of stone to the stamps must be expected to fall off, as a matter of course.

**IMPERIAL BRAZILIAN MINES.**—Gongo Soco, Jan. 3.—From your hopes of our being able to open a communication between Walker's and Thomas's shafts, and to get the new wheel ready so early as September, I fear my intervening letters, assigning a far later period for the accomplishment of both these objects, will have occasioned deep disappointment. We were compelled to discontinue the level between the two shafts by the increase of water in the mine, but it is now again in course of extension; whilst, if Walker's new wheel had been in working order, it would have been of no use to us, for want of the new pumps. I have repeatedly urged the founder on the subject of the gudgeons for the wheel, for which we are now waiting, and he now promises them during the present week; he will, however (in spite of all I can say), take his own time, as he well knows there is not another person in the province who can make such heavy pieces as these. I regret to say, that Gongo presents no alteration, but that of increased poverty in our western ground. At Bananal, being unable to sink Thomas's shaft, for want of more water-power and larger pumps, we are driving thence towards Walker's shaft on the one hand, and on the vein under the large pump on the other. The vein shows traces of gold, and has a very promising appearance, but has hitherto given nothing for the washing-house. All our works in the mine have, just at the same time, fallen in hard ground; we are, therefore, bringing the various ponds on opposite sides, exactly opposed to each other, so as to drive across the rock at right angles, in order to have the shortest distance through it, and thus save time and money. We wait only on the founder for his iron work, to commence putting Walker's wheel (long since in an advanced state of preparation) into its place. The captain's room is in use; the washing-house will be in readiness during the present week; the stores and offices are walled and roofed, and need only floors, doors, and windows, and the wood-work for the sawmill roof is in a forward state. A few dry days, after 28 days of rain in December, now allow us to work out the places for other buildings, which will be commenced as soon as our Brazilian workmen return from the Christmas holidays.

#### SOUTH WHEEL TREVELNEY MINING COMPANY.

At a meeting of shareholders, held at the offices, Birchin-lane, on Friday 10th inst., the minutes of the previous meeting were read and approved; the statement of accounts was examined and passed, showing Dec. and Jan. cost, 298l. 6s. 4d.—Balance in favour of the mine 10th January last, 169l. 8s.—leaving balance against the mine, 118l. 18s. 4d. It was resolved, that the purser do by himself, or through the merchants to whom the mine is indebted, take legal steps against such shareholders, who shall not, within two weeks of the present time, pay up the arrears of the call made on 20 Nov. last. A call of 50s. per share was made, payable immediately. The following report was read:—

**South Wheel Trevelney Mine, March 5.**—I beg to inform you, the engine-shaft is sunk 36 fms. below the adit level, the ground in which is still as favourable as we could wish to find it, and stands without being timbered; it is a dark blue-kiln-strata, in which are often seen spots of lead, mounds, and crystals of copper ore, very congenial for lead, we believe, if we are allowed to find our opinion on the strata in connection with such a bed as we have driven through in the adit level (particulars of which have been given you in former reports), also bearing in mind how very productive this lode has been, and still is in the adjoining mines—viz. : Wheel Mary Ann, Wheel Trevelney, and Wheel Trehanne. In each of these mines, the strata is in every respect alike to that in South Wheel Trevelney Mine; we intend to continue sinking the shaft to 30 fms. below the adit level, whilst the shaftmen are engaged cutting ground for eastern bearings, &c., and fixing plunger-lift, to have six men employed, at one and at the same time, extending a cross-cut west from the shaft to intersect the lode, which will be about 12 fms. ago, and the underlay, as seen in the adit level, and at a depth of 43 fms. from the surface. Should the ground continue favourable, we have every reason to believe the lode will be intersected at Midsummer next, and if it be possible, we will accomplish it before that time. We have pitwork enough on the mine, without accident, to put us to the 30 fm. level, also timber enough to divide and ease down the shaft to that depth. Our engine works remarkably steady, and the water at present is rather short of two strokes per minute. As the time is not far distant when the lode will be intersected 43 fms. below the surface (a very interesting point, especially to the shareholders), we hope the expectation will be fully realised in every respect, and their reward be, for their perseverance and outlay, a profitable and lasting mine.

#### SOUTHERN AND WESTERN MINING COMPANY OF IRELAND.

The first ordinary annual general meeting of shareholders was held in the Committee of Merchants' Room, Commercial-buildings, Dublin, on Monday, the 6th inst.

Major Beamish in the chair. On commencing business, the CHAIRMAN said he never assumed the chair at any meeting, either of a public or a private character, with more sincere satisfaction than at this, the first meeting of the shareholders of the Southern and Western Mining Company of Ireland. Embarked in common with yourselves in an undertaking which I have watched with the deepest anxiety from its earliest moment, it cannot but be most satisfactory to me, to find that the directors are able to submit to the shareholders the highly favourable report which will be read to you by our Secretary. Gentlemen, this company was formed under circumstances the most unfavourable that can be imagined. Eighteen millions of capital became lost to Ireland, through the failure of the points of the Corn Law, and famine destroyed the land—wild speculations and commercial embroilment made bankrupt many of the oldest and most respectable houses of the sister kingdom, and credit had been shaken to its base. The formation of this company involved the purchase of the Gortavally Mine, at a cost of 20,000l., and the obtaining of a Charter of Incorporation, the expense of which far exceeded the expectations of the shareholders. Yet, under all these circumstances, the directors, with the most judicious economy, have managed you on the present occasion with scarcely a single shilling beyond the ordinary expenditure—all the heavy preliminary mining operations being successfully concluded, and a cargo of ore ready for shipment. Gentlemen, I believe there is no instance on record in the mining world, of so much having been done in so short a time, with so little capital. (Hear, hear.) It would require that 10,000l. should be sunk in Cornwall, before arriving at such a position; and yet here, with so small an expenditure, the actual mining expenditure not much exceeding 2000l., we have placed the mine in a condition to yield successful crops of most valuable ore. The best suggestion I can make to any man at first sight appears a costly purchase, about 2000l.; but it is to be recollected, that it is the great security for the shareholders, as without its protection you would be exposed to all the undivided liabilities attaching to trading companies under the Joint-Stock Company's Act, by which the property of any individual shareholder is made responsible for the debts of the company; but under our charter, however, your liabilities are defined, and cannot exceed the amount of your subscription. The possession of that charter is also a peculiar privilege to our company. The directors of no mining company in Ireland, or of any company of any kind, which has been fortified with such a grant; and I will take this opportunity of expressing, in the name of the directors, our sincere acknowledgments to the Members of the Houses of Lords and Commons, who have so considerably aided the prayer of our memorial to her Majesty. (Hear, hear.) Where so many have befriended us, it may appear invidious to particularise; yet I cannot forbear to mention the name of the Earl of Lincoln, who, in retiring from his office of Chief Secretary for Ireland, left behind him a strong recommendation in favour of our memorial; neither shall I forget to mention the name of the Right Hon. David R. Riggs, who has given gratuitous services; nor that of the Earl of Clarendon, our present excellent Viceroy, who put forward our memorial so kindly. (Hear, hear.) Gentlemen, I could dwell on the advantages which you have conferred, and are capable of yet conferring, on one of the poorest, wildest, and most unutilized districts in the south of Ireland, but I am aware that that is not a point to bring before a body of gentlemen associated for their own private advantage, at the expense of the State. I am sorry to think that any one of us would shut out from his mind the pleasing reflection, which should arise to any man, that in proportion as our expectations are realised, and our operations extended, in the same proportion must those who are dependent on us be served, and their social condition advanced. (Hear, hear.) Gentlemen, I consider myself fortunate in being able to corroborate much of the details which will be communicated to you by our excellent superintendent, having visited the mine in August last, and personally inspected the works; and, although I have no pretensions to any knowledge of practical mining, still I saw sufficient to satisfy me, that the most valuable mine had been laid open, and that the most formidable difficulties had been overcome; that a cliff, nearly 300 ft. above the level of the sea, had been pierced, and levels carried into to a considerable extent; that a firm and commodious dressing-floor had been wrested from the Atlantic, and a reservoir constructed, and a deep adit level, by which the mine is drained, and a ready conveyance afforded for the ore, avoiding the heavy cost of steam machinery, from which, in all probability, the company will be saved at the expense of 100,000l. In addition to the above, we have much of the ore itself comes out in so pure a state as to require very little preparation for market; and, in short, it requires but a little steady perseverance, and a small amount of capital, to render the Gortavally Mine a most profitable concern. Gentlemen, I think I ought to state these facts, in corroboration of the more minute details which will be laid before you; and I shall now only add my congratulations on the condition and prospects of the company, and our singular good fortune in having secured the services of the able, upright, energetic, and indefatigable officers who have been entrusted with the executive department of the company. (Hear, hear.)

The Secretary then read the report of the directors, which we published in the Mining Journal of the 4th inst.

The report of the superintendent, Capt. Thomas, was also read, which entered into the details of the workings, and was highly encouraging—lodes were being cut, averaging from 4 to 24 ft., containing rich oxides and carbonates of copper. There had been explored since opening the mine 475 fms. 0 ft. 6 in. in shafts, levels, and mines; and it stated that the most promising lode was being worked at a depth of 90 fms. from the surface, 70 fms. deep, without incurring one farthing expense for water-charges, being all drained by the deep adit to that depth. Nothing has to be done to surface, as all the ore is brought by railroad laid down in the adit; and dressing-floors, smiths' and carpenters' shops, and every thing necessary, had now been provided, and all with an outlay of less than 5000l. Capt. Thomas said, he hoped to be able to ship a cargo of copper ore, of 80 tons, by the end of the month, value 6000l., freed of all expenses. In all his experience, he never saw a mine which presented such a favourable prospect as this.

The following directors, retiring in rotation, were then re-appointed:—Major Beamish, T. S. Reeves, R. Townsend, and R. Briscoe, Esqrs.; and as auditors:—A. S. Carr and W. C. Logan, Esqrs.

A lengthy discussion then took place on the propriety of obtaining the opinion of some eminent mining agent, as to the condition and prospects of the Gortavally Mine. Mr. Gortavally moved, that the attention of the directors be called to the expediency of obtaining the opinion of some eminent mining agent on the Gortavally Mine; and that Messrs. Guy, Hill, and Goulding, on the part of the company, be requested to accompany the agent to inspect the mine. Mr. W. K. Rogers seconded the motion, which was carried. Mr. Townsend was then moved to the chair, and the thanks of the meeting having been passed to the former chairman, Major Beamish, the meeting separated.

**NORTH ROSSKILL.**—The statement of accounts to March 18th, shows:—By ore sold, 3000l. 10s. 6d.—Cost for December and January, 2999l. 17s. 1d.—leaving profit, 10l. 2s. 4d.; and, in pursuance of the order, 2507l. 18s. 7d. 2618l. 6s. 11d.—By dividend, 3500l.: leaves balance in hand, 2168l. 6s. 11d.

#### WHEEL TREVELNEY MINING COMPANY.

At a general meeting of shareholders held at the mine on the 1st inst., the accounts were examined and passed, showing:—Labour cost for three months to end January last, 162l. 13s. 11d.; bills, 92l. 1s. 10d.; balance last account, 49l. 5s. 7d.—304l. 1s. 4d.—By call, 30s. per share, 1817l. 10s.: leaving balance against the shareholders of 1221l. 11s. 4d. It was then resolved, that the present amount of shares be doubled, in future to consist of 242 parts; that a call of 1l. per share be made, payable immediately at the Devon and Cornwall Bank, Liskeard; and that the report and accounts be printed and circulated among the shareholders. The following reports from Capt. Nance and Taylor were read to the meeting:—

**Wheel Trevelney Mine, Feb. 25.**—Since the last meeting, the cross-cut in the 30 has been extended north and south, and intersected two lodes. The south lode is cut within 9 or 10 ft. of the shaft, underlying towards it at about 18 in. per fm.; we have driven on it 2 fms. east and west of cross-cut—it is composed of peach and quartz, spotted with munda and copper ore. The appearance of it in the eastern end is very promising; and there being a quantity of gossan in the lode in the adit level further east, it will be advisable to force the driving east as soon as possible, where it is likely to be found most productive. The north lode appears to be heaved or displaced by a slide, which has passed through it about 3 ft. above the bottom of the level, and brought the part of the lode under the slide to within 21 fms. of the shaft; this part is 10 in. wide, of quartz and stones of ore. There are several other lodes seen at the surface to be intersected; one of them, a large lode, is within 5 fms. of the present cross-cut. The shaftmen are making preparation to sink the shaft under the 30, as the prospect of finding deposits of ore in a deeper level is more likely than at the present depth, where the north lode is divided by a slide. The situation of the south lode is different, as the slide passed through it several fathoms above the 30 fm. level.

**West Craven Mine, Feb. 24.**—According to your request, I have inspected Wheel Trevelney. I first examined the adit level, for 60 fms. in length, on course of lode, to the south of the engine-shaft; I found the lode to be 24 in. wide, composed of gossan, peach, and soft spar, impregnated with copper ore and munda. About 13 fms. to the north of the south lode I examined another lode, 2 to 3 ft. wide; this lode contains a quantity of gossan on the back, but in the adit it is composed of peach, quartz, and munda. I then descended to the bottom of the engine-shaft, in the 30 fm. level, where there is a cross-cut driven north and south, and intersected two lodes. The south lode has been extended 2 fms. east and west of the cross-cut, on the course of the lode; in the eastern end it is 8 to 9 ft. wide, and contains a little copper ore—I would advise you to extend east on this lode as expeditiously as possible, to come under the shoals of gossan in the adit level. I would also advise you to sink the shaft 10 fms. deeper, which, according to the present appearance of the ground (being much softer than it is further up), may be done for about 100 per fm., exclusive of whelm drawing, lift, &c. As the lode cut to the north of the shaft appears to be heaved by the slide, it is very apparent that you must go deeper before you can reasonably expect to find it productive. Judging from the appearance of the lodes, and being so near the engine-shaft, you can intersect them at a comparatively small outlay. I have paid particular attention to the nature of the locality, being near the junction of granite and kilas, and the properties of the strata. I find a great similarity between it and the Levant Mine, in St. Just, which has yielded so much profit. I believe also it is much like Fowey Consols, East Croft, North Hockear, and Wheel Seton Mines.

#### WHEEL TREVELNEY MINING COMPANY.

At an adjourned meeting, held at the Commercial Hotel, Camborne, on the 8th inst., R. LANTON, Esq., in the chair, the committee, appointed at the last meeting to investigate the accounts, reported that they had examined them over a period of six years, to Jan. 1848—the result of which led them to believe, that they were generally correct, except in the matter of timber; the system of supply of, and mode of charging which, was objectionable, and threw great difficulty in checking the accounts. On reference to documents produced then, they consider that the sum of 840l. 2s. 8d. remains to be charged to the end of Dec. last. The following is the statement of accounts, showing balance of 2912l. 19s. 4d. against the mine, besides arrears of 1032l. 2s. 8d., which may not be recovered:—Calls, 7910l. 10s. 6d.; ore sold, 7764l. 6s. 4d.; charged twice, 512l. 6s. 6d.—15,126l. 2s. 0d.—Labour cost, 15,039l. 1s. 4d.: balance, 2912l. 19s. 4d.—They recommended that, after the additional sum of 840l. 2s. 8d. for timber, was charged, and other charges, to Dec. last, the whole amount of costs, up to that period, be divided and collected by means of cash payments, or bills of two, four, and six months' date, the latter with interest; also all arrears not paid in two months, the defaulters to be sued; that the regular account meetings in future be held quarterly; that a committee be appointed, with power to borrow at the Miners' Bank to carry on the mine, as may be decided on at the next meeting. It was then resolved, that the report be received and adopted; that the pursuer's resignation cannot be accepted until the accounts to Dec. are fully settled; that the following gentlemen be a committee for general purposes:—E. W. W. Pendarves, Esq., and Messrs. R. Lanyon, J. Rule, W. Symons, and T. Edwards—two to be a quorum; that such committee be authorised to borrow not exceeding 5000l.; that a new set of books be obtained, and kept under the management of the committee; that the shares be divided into three times their present number, and that the amount of arrears and costs be collected as recommended; that the committee be requested to assist in collecting the said calls and arrears; that the salary of Mr. Newton be increased to three guineas per month; that N. Thomas be engaged as storekeeper at the mine, remuneration to be considered at next meeting; that application be made to E. W. W. Pendarves, Esq., for a reduction of dues; Mr. Pendarves having purchased a whim for 4600l., and having offered the use thereof at 7½ per cent. per annum on the amount, the same be accepted, subject to an option, at any time, to purchase at the above amount; and that the next meeting be held on the 19th April next.

#### IMPROVEMENTS IN MINING MACHINERY.

Sir,—I, months ago, proposed at Talargoch Mines, to make a trial of pumps, as proposed by Mr. Sims, of Redruth, in your valuable Journal of the 4th inst., to supersede the use of horizontal or flat-rods for communicating power from the engine to other parts of the mines, with the following difference from Mr. Sims's invention:—I proposed that the pipe leading from one pump to the other, should, to avoid the necessity of air being admitted, be of as great, if not greater, area than the pumps—thereby preventing the friction that would necessarily arise from the pipe being so much more confined than them. I also proposed a small system, with a valve in it, to contain water, to be placed where Mr. Sims proposes a valve for admitting air—the water in this system to supply any leakage that might ensue. I have not had a trial made of this plan, so I cannot tell how it might do; but, if Mr. Sims has had a trial made of his plan, he would, by communicating the result through the medium of the Mining Journal, confer a very great favour on many besides your humble servant.—R. DAVIES: Talargoch Mines, March 16.

#### THE COST-BOOK SYSTEM.

Sir,—Will you oblige me, through the medium of your valuable Journal, by answering the following questions:—Whether, in mines conducted upon the Cost-Book Principle, it is not an universal custom for a shareholder to have a vote for each share held by him? I believe the usage is different with the scrip system.—W. S. GRAHAM: Wheel St. Ann, Thomas-street, Bristol, March, 16.

The fundamental principle of the Cost-Book System is, to prevent the small holder from being overpowered by those having a larger stake in the adventure; and, therefore, we think, gives to every holder one vote only, whether he hold one share or ten. Were it as our correspondent suggests, one, or at most two large holders, might, in many cases, dictate as they pleased to a score or two of others, to the great injury of their interests, and that of the undertaking generally. We speak of the principle; but believe there are instances, at the formation of the regulations, of a scale being adopted—such as 1 share, 1 vote; 5 shares, 2 votes; 10 shares, 3 votes; and 20 shares, 4 votes; 60 shares, 5 votes, &c., or any other arrangement which may be agreed on. For further general information, we refer our correspondent to notices on this subject, in the Mining Journal of June 19 and Dec. 11, 1847.]

#### SLAVERY IN FOREIGN MINES.

Sir,—Your correspondent, who signs himself "Anti-Slaver," in his zeal against those who employ slaves in mining operations, has fallen into a most gross error. He says—"Although it is not generally known, the whole of the Mexican mines—say, I may say, all the foreign mines (except those worked in our own colonies)—are, at the present moment, employing slaves, and, in large numbers, who are worked and treated in a most shameful manner; and an eye-witness states that their treatment is beyond all endurance."

If "Anti-Slaver" had not included all foreign mines, I should have considered that the word "Mexican" was a slip of the pen, and that he intended to write "Brazilian;" but as he appears to have written it advisedly, although ignorantly, I think it proper to inform him, and others who may be misled by his statement, that there is no such thing as slavery in Mexico—that every man, be he colour what it may, is as free as on British ground; and that, so far from the miners being ill-treated, they are very highly paid for their labour, and seldom work more than three days in the week. Thus much for Mexico. Brazil and Cuba may answer for themselves.—J. P.: London, March 18.

#### SLAVE LABOUR IN MINING OPERATIONS.

Sir,—I am rejoiced to find you are using your powerful energies to draw attention to this important subject, as connected with mining enterprise; it is a matter of such vital consequence to thousands and thousands of human beings, that you must not let it drop until the demands of humanity are fully satisfied. You are the only organ of the mining interest, and, therefore, peculiarly bound to look minutely into this dreadful matter. All the world declaimed against the slave trade, and every enlightened country seems delighted to express its determination to carry out emancipation. One of the first questions to which the Provisional Government of republican France directed its attention, notwithstanding the innumerable calls on points of home interests, was the abolition of slavery; and M. Lamartine declares to the world, that France will not ever England in this holy cause. Well may she do so, for what is our boasted horror of slavery? That we allow British subjects to traffic in the purchase and sale of their fellow-creatures. All the mining companies met in our colonies, conducted by Englishmen, worked by English capital with boards in London, composed of the leading merchants, employ slaves—some as freeholders, some

on hire. The principal are the Imperial Brazilian Association, of which Joshua Walker, Esq., is chairman; the National Brazilian Company, presided over by Edward Oxenford, Esq.; the St. John del Rey, of which J. D. Pevens, Esq., is chairman; the St. Jago de Cuba, of which Sir J. A. Goldsmith, Bart., is principal; and the Cobre Copper Company, of which Robert Passenger, Esq., is chairman. Strange, also, is it—but, nevertheless, true—that the principal shareholders are Quakers, and some of their names of great renown as philanthropists. The Society of Friends they denominated themselves—friends indeed; friends of what—humanity or their pockets? God, however, is just; retribution soon follows on the heels of the wicked, and the oppressors of the poor and helpless. Your own columns lately show that this is a truism—the whole works of the St. John del Rey, you tell us, are likely to be brought to a close, by the abstraction of its grand and oily moving power—water; and, consequently, all profits and dividends may soon cease. Is this to be wondered at? No doubt, when the truth appears, which must soon be clearly elicited, we shall see that none really are prosperous. The mining community rely on you, Sir, to unfold every point connected with this revolting traffic; and all parties look forward with intense anxiety for the promised list of directors and shareholders of slave labour companies, to see who are the real abettors of crime and barbarism.—No HYPOCRISY: March 16.

#### TO THE SHAREHOLDERS IN THE MENDIP HILLS MINES.

GENTLEMEN,—To remove the erroneous impressions which are likely to be produced on your minds, by the false and mischievous letter that has been addressed to you, in the Mining Journal of the 4th inst., I wish to call your attention to the assertions made in that letter, so that you may not suffer your property to be damaged by discussion amongst yourselves, or those composing the present directors. It seems apposite, first, to remark, that the correspondent has entirely and wilfully misrepresented the circumstances of the case; and that, in fact, the statements which he has made are totally wanting in the great essentials of truth. You are informed, that the "managing director," Mr. Stainby, receives 200l. per annum for managing an important army of 40 or 50 men, engaged on the works, and for writing an occasional dispatch. This statement is evidently intended to create a wrong impression, and is, in effect, untrue. Mr. Stainby does not receive 2000l. merely for the performance of the duties enumerated, but for the transaction of much more material business than that mentioned by your correspondent; and, to obviate any misunderstanding, I will state some of the most obvious of such business:—to provide offices and clerks, in London, for the regulation and transaction of the company's affairs; to attend at such offices, from 9 to 6 o'clock, to receive and answer correspondence from merchants, agents, engineers, and others; to answer and satisfy inquiries of shareholders; to superintend the banks' accounts, and the pecuniary affairs of the company; in fact, to devote his time and exercise his talent in conducting the business of the shareholders. Without, therefore, describing, in detail, the various important duties and responsibilities which naturally arise out of those enumerated, it can with facility be understood that the expense of office rent in London, the payment of competent clerks, and the time, trouble, and heavy responsibility involved in performing the office of a managing director, are very inadequately remunerated at 2000l. per annum. In this case, too, the shareholders are much benefited, by being associated with the gentleman who manages the company in London; and who, setting out of consideration his vast influence, united with his comprehensive practical and theoretic knowledge, is enabled to conduct the affairs of the company upon an efficient and economical system, having the management of other companies in his establishment. Thus it will be seen, that the acting director is inadequately, rather than over paid; and any shareholder can realise the truth of this statement, by supposing himself called upon to establish a system of management for other men and clerks, and devote his time and talents for a considerable period of time. The second assertion of the correspondent is certainly as false as the first. He states "the directors receive 240l. per annum for attending, once a month, to sign a cheque." This incoherent falsehood is absurd upon the face of it, and carries with it its own refutation. It can be ascertained, from the company's books, that there are five directors, whose remuneration is 48l. per annum each. These gentlemen meet twice a month, sometimes more frequently; they revise, with great caution, the whole correspondence; they check the expenditure, and regulate the monetary affairs of the undertaking; they consider the progress of the works, and give direction and authority to the engineers, surveyors, and improvements. It may also, without hesitation, be said, that in the erection of machinery, construction of works, furnaces, tram-roads, &c., many hundreds of pounds have been saved to the company by the deliberations and suggestions of these gentlemen, whose knowledge of such matters is peculiarly comprehensive. When, in addition, it is stated that the directors attend regularly the board meetings; that they come from a considerable distance, and incur considerable expense; that they, in their own persons, hold half a large out of capital, in purchase of the property, and advance money for the purchase of capital, and when it is reiterated that the directors hold half the property, the nature of charging the shareholders 5000l. for the purchase is conspicuously apparent. With respect to the original constitution of the company, the books will afford a direct contradiction to your correspondent's statement, concerning the appointment of directors. With regard to the 13l. for travelling expenses, charged by one of the directors, for a visit of one hour to the mine, I must express a strong conviction that such is not the case, and that an explanation of the charge, if asked for, will be afforded satisfactorily. There are, however, several reasons for the continuation of the pursuer's services; but, by forcing him to give a public explanation, much injury may be done to the shareholders' interest; every proprietor, however, can satisfy himself upon this point by investigation.

These explanations, gentlemen, may serve to place the whole case before you, divested of that suspicion which the communication of the dissension correspondent wishes to cast over plain dealing, and who seems to be actuated by a desire to gratify his own private passions, under the assumed object of converting the interests of the shareholders. The foregoing remarks may, perhaps, prevent any mischievous interference with the management of these works, which, if conducted as hitherto, will become a most valuable and lucrative investment; but, if you wish to bring your property to a profitable state, you will best do so by supporting the managing and other directors, who possess knowledge at once minute and very extensive. I, therefore, charge you to disregard recommendations based, as I have proved, upon falsehood, and which, like an overdose of poison, has destroyed the effect intended for good, although your correspondent has attempted to disguise his false imputations by a fanciful allusion to the savings of 13s. 6d. per annum; to you that the effort is as paltry and malignant in conception as it is false and futile in execution.—F.: Kingsland, March 6.

#### MENDIP HILLS MINING COMPANY.

Sir,—As a holder of shares in a few mining companies, which have of late put me to some inconvenience on account of the heavy calls made upon me, I return you my most sincere thanks for the article in your last week's paper, calling the attention of the directors of the Mendip Hills Mining Company to a greater system of economy; and I do hope that, in these hard times, when money is so scarce to be got, your appeal will not be in vain. At any rate, you will deserve our thanks for agitating the subject. I have a few shares in Mendip Hills, which have cost me 3l. 10s. each—the first 1l. being paid, as I now understand, to the contractors for the works, and which I never understood at the time; the calls on the shares, however, have pressed heavily upon me since; and, I have been made by the directors as they thought fit, and I have been threatened with their legal proceedings if I have been behind time in paying. This is not what I considered the Cost-Book Mining System, as often explained by you; and, according to which, I thought the accounts should be produced every two months, and meetings of shareholders held, to make the calls. I always thought this company was on the Cost-Book System, as I never heard of its being registered; but, perhaps, you can enlighten me and some of my friends, who are held in the same manner, and who are in the same predicament.

[There are many versions of the Cost-Book Principle, but the Mendip Hills Company can now be scarcely called a mining company, inasmuch as its operations are principally confined to smelting. We are not lawyers enough to say, whether the company, as at present constituted, be illegal; but there can be no doubt it is not, and never has been, carried on upon what is generally recognized as the "Cost-Book System of Cornwall," and which was exempted from the operations of the Joint-Stock Act.]

#### WHEAL VINCENT.

Sir,—Mr. Mayhew has made my letter, respecting Wheal Vincent, such a personal matter, and replies so warmly, that it is necessary to trouble you a second time. It was quite contrary to my intention to convey disrespect to Mr. Mayhew, by saying I had not the honour of his acquaintance. I merely wished to show, that I was not connected with the property—that I did not even know Mr. Mayhew personally. Neither did I deem it "quitting" to say, because Tin Vale, because Tin Vale does not require. When we work, we pay a large proportion in the pound to their employers, there is no occasion for "quitting." It is true that, at the period the materials at Wheal Vincent were offered to me, we had not more tinstuff than our stamps could work; but will Mr. Mayhew say that we have now enough power at the mine to keep pace with the supply of tinstuff? Was I to blame, therefore, for endeavouring to provide for the requirements of the mine, or wrong in saying Tin Vale wanted more tinstuff? It appears from Mr. Mayhew's letter, that I erred in saying the materials were to be removed to Wheal Sarah. Captain Spargo was my authority. I am still a buyer, as Mr. Mayhew will sell, I will give 55l. for the lot. I still assert there is water-power at Wheal Vincent during the winter months only. I do it on the assurance of those residing on the spot, and shareholders in the old company. Captain Spargo only denied it, in a qualified manner, by saying he thought it was misinformed. However, summer is coming on, and time will quickly show the truth. Captain Spargo does not, I am well aware, require the companies of Captain Floyd. My object in respecting the gentlemen and unqualified expressions of Captain Spargo was to give contribution to assurance companies, indicated to me from various quarters, which I mentioned to Captain Spargo, that he invariably speaks disparagingly of the mining capabilities of Captain Floyd. W. W. MANKS. March 13.

#### THE TAVY CONSOLS MINE.

Sir,—Being a large shareholder in Tavy Consols Mine, the letter signed "Observer" (Tavistock), in your last week's Journal, has attracted my attention; and I pity the poor spirit that induced "Observer" to desire you to copy the letter of Capt. Gos, with its Devonshire orthography, verbatim et literatim, in order to show him up to the ridicule of your numerous readers. Had "Observer" any right to publish a private letter from Capt. Gos to his friend, written (although in figurative language) to establish his friend's confidence, and to prevent the disposing of his interest in less than its value? Surely not. And then, what has the man's wording and spelling to do with his ability or integrity? I am not aware that men are made captains, or superintendents, because of their literary attainments, but from their having shown, by their conduct as working men, that they are masters of their business, and are fit to be entrusted with a responsible situation. I believe the managing committee made suitable inquiries about this man's character and abilities before they placed him in his present place; and one of their greatest inducements to give him the captainship was, that he had the character of an honest man, and a good worker; and his situation was confirmed by a large majority of shareholders, at a general meeting. I have no doubt that corruptible "Observer" is a disappointed man, and would have liked the situation himself, if the truth were known; but I should recommend him to



ature to mind his own business, and not trouble himself about other people's affairs; and to be thankful that he can read and write, and that he is neither a "ploughboy nor a tailor!" If he is a shareholder, he can bring his grievances with him to a general meeting, and have a discussion.

I agree with "Observer," that many concerns in this neighbourhood have been ruined by the extravagance and recklessness of agents (quarry-men) and "observers," a mining agent himself?—but this is not likely to be the case at Tavy Consols, as the committee are men of business, and I believe, the shareholders have the greatest confidence in their management. The captain is a persevering, industrious man, always to be found at his post, so when you will on the mine, and has the interest of the concern at heart.

Friend "Observer," art thou the Goliath, or the lion, or the lion? or art thou only one of the host of the Philistines? I suspect thou art the latter; but wishing to be taken for the lion, hast thou not the noble animal's skin around thy shoulders, and, by thy voice, hast thou not frightened thy neighbours. Be not deceived—thine own voice betrays thee.—A. PLYMOUTH SHARROLDEN: Plymouth, March 14.

(Errors.—In the account of Tavy Consols Mine, in your last Journal, 24 line, read—"The 4th level, and the 19th level, and the 24th level, are driven west to the cross-course." 4th line—For, "The mine has returned 2000, worth of ore," read "3000, worth."

**BALNOON CONSOLS.**—At a meeting of adventurers, held on the 3d inst., the accounts were presented by Mr. Roscorla, the purser, and allowed, showing—Labour cost for Oct., Nov., Dec., and Jan., 1866, 6s. 6d.; merchants' bills, 475l. 11s. 10d.; on account, 21 14s. 3d.; balance due to purser at last account, 388l. 9s. 4d.—688l. 1s. 11d.—By tin, &c., sold, 731 3s. 3s.; call of Nov. 10, 378l.; leaving balance against the adventurers of 231l. 18s. 8d.—A call of 3s. 10s. per share was made.

**CONSOLS MINES.**—The two-monthly meeting of adventurers in these mines took place at the account-house, on Wednesday last, when the following accounts for Jan. and Feb. were submitted and passed:—By balance at last account, 1801l. 12s.; ores sold (less dues), 7591l. 8s. 7d.—9393l. 0s. 7d.—To costs and merchants' bills, 7657l. 15s. 10d.; balance in hand, 1785l. 4s. 9d.

**DEVON AND CORTNEY CONSOLS.**—At a meeting of adventurers, held at the mine, on the 14th inst., the accounts were examined and passed, showing—Balance last account, 482l. 9s. 2d.; call, 466l.—together, 948l. 9s. 2d. By cost, Jan. and Feb., 622l. 6s. 4d.—leaving balance in favour of adventurers, 426l. 2s. 9d. It was resolved, that the explanation respecting the forfeiture of Mr. Treddinick's shares being satisfactory, and he having offered to pay, the same be restored. A call of 5s. per share was made, payable immediately.

**POLSAITH CONSOLS.**—The two-monthly meeting of shareholders was held at Wheal Gill account-house, on Friday, the 10th inst., when a call of 1l. per share was made.—The captain reported the cutting of the lode in the 12th level below adit, on Trebetherick; when first cut it was disordered by a slide, but which, after driving a few feet on, has become regular, about 2½ ft. wide, with a good branch of lead in the end, presenting altogether a very promising appearance. The water became too quick to be drawn by barrels. The meeting ordered the erection of the engine (which is on the ground) without delay. The water at Tinner's Hill is also quick, but we are still able to keep it with barrels, and hope to continue to do so, to enable the cutting the lode there, which is expected to be done within a fortnight of this date.

**WHEAL UNION.**—A meeting of shareholders was held at Redruth, on Tuesday, the 7th, when the statement of accounts was produced, showing—To eight months' cost, ending Feb. last, 503l. 14s. 7d.; by copper ores sold (less dues), 96l. 6s. 6d.; materials sold, 27l. 18s. 8d.—124l. 5s. 2d.; showing loss, 379l. 9s. 6d.—The following report was read to the meeting:—"Since the last account, the new shaft has been sunk from the surface to about 9 fms. under the adit, when, from the great floods and consequent excess of water, it was obliged to be suspended. It was determined on at the last meeting to continue the present scale of working until the water is abated, when the sinking of the new shaft is to be resumed; and we expect to be able to sink from 12 to 15 fms. with horse-power, which would be sufficient to show us whether we should remove the engine or not. The workings from Carn Brea are fast approaching towards Wheal Union with very favourable prospects, the distance being now about 80 fms."

**WHEAL VYVYAN.**—The statement of accounts to the 3d March shows:—To nine months' wages to 31st Dec., 3347l. 4s. 7d.; water rents, 55l. 11s. 10d.; dues, 164l. 8s. 4d.; merchants' bills, 860l. 18s. 8d.—4428l. 3s. 5d.—By balance in hand, end of March last, 81l. 18s. 5d.; copper ores, 402l. 1s. 9d.; tin, 2940l. 9s. 10d.—8424l. 10s.; showing loss in nine months of 1008l. 18s. 5d.—A call has been made of 5l. per share.

We received the following reports too late to insert in their proper place:—**CALLINGTON.**—In the 30th level east the lode is improving, and more regular; about 2 ft. wide, producing stones of copper ore. In the 70th level east the lode is 2½ ft. wide—poor at this time. The stopes, in the back of this level, look well, having nearly 50 fms. of good ore, and about 20 fms. of which we have driven. In the 90th level, driving towards the great cross-course, the ground is favourable. In the 100th level, south no lode has been taken down; and in the 90th level we are opening tribute ground. In the 125, south from Johnson's shaft, we have a small branch of silver-lead ore; in the north end the lode has not been taken down. In the 112 south the lode is 40 in. big—ore; in the north end no lode has been taken down. In the 100th level, south, we are driving through the north part of the south channel of elvans; it is of a favourable character—the lode has not been taken down. We calculate on sampling 100 tons of silver-lead ore this week.—March 12.

**DRAKE WALLS.**—At Brenton's engine-shaft, large and tiny branches—ground hard. To the stopes, below the 40, east of Brenton's shaft, good branches; in the stopes, west of machine-shaft, good branches; in the stopes, east of machine-shaft, below the 40, saving work; in the machine-shaft, sinking below the 50, very good branches; in the 35 end, east of machine-shaft, good branches—ground hard; this level has improved for a great length, compared with the ground over in the eastern part of the mine. The stopes below this level have been suspended since my last, for the purpose of getting the end a little ahead of the stopes, to prevent any hindrance that might otherwise occur. In the end, below the adit, east of footway shaft, small branches, not rich. At the new engine-shaft, branches small and poor. The end on north lode, going west from the Tamar, presents favourable indications for copper, being composed of strong gossan, greens, mudiic, &c. A little copper, mixed, and in a favourable strata of kilaes.—March 11.

**TAMAR SILVER-LEAD.**—In the 175 end the lode is 18 in. wide, 1 ft. of which is good work. In the 160 end the lode is 2 ft. wide, producing a small quantity of ore. In the 845 end the lode is 2½ ft. wide, saving work, but not rich. In the 135 end the lode is opened to a large size; we are, therefore, carrying about 3½ ft. on the west side, which is yielding work of a promising quality. In the last fortnight we have been repairing our large steam-whirl, which has impeded our progress, but I am happy to say it is completed, and we are again progressing favourably. At the north mine, in the 70 end, the lode is 3 ft. wide, composed of capels, can, and ore, saving work. In cross-cutting in the 60th level, we have intersected a branch about 4 in. wide, but consider the main part of the branch is still further east. In the 80th level we have cut the eastern lode which is about 18 in. wide—6 in. of which is work of a good quality. Our pitches are looking favourably. We sampled, on the 14th March, inst., 97 tons 3 cwts. of silver-lead ore, which sold for 1015l. 8s. 7d.—March 13.

**ANTIMONY AND SILVER-LEAD.**—We are glad to find that the mines in this neighbourhood are about to be prosecuted with vigour, particularly the Antimony and Silver-Lead Mines. As our part here abounds with both, there is no doubt but what they will get returns worth while. Many years since, when the late Capt. Glanville and others worked the Antimony Mines here, they made good returns, and paid themselves well, and only gave up working on account of the failure of other speculations abroad; and now I see, by your Journal, that they are going to make white paint of antimony; there will be a good demand for it, and the price will go up in the market, which I am in hopes will make things brisk here.—Fort Isaac, March 13.

**WHEAL CUNTE.**—The lode in the 30th level is about 3½ ft. wide, producing good stones of copper ore. On Tuesday, the 14th, we purpose sampling the ore already dressed, which we judge will be about 30 tons.

(From the Plymouth Journal.)

**WHEAL YEOLAND.**—The engine-shaft has been sunk 9 ft. under the 12th level; in the 12th level, west of the engine-shaft, there is a good course of ore, and in the 12th level east the lode is rich. The stopes are not as yet in full operation, but as the transverse from the shaft to the stumps is in a forward state, they will be shortly. There will be a considerable parcel of tin ready for market in the early part of April.

**EMBOE ELIA.**—The lode in the 19th level continues to hold out great promise, being composed of gossan and rich ore. It is intended immediately to sink 10 fms., and drive to cut the lode. The reports of Capt. S. Scobbe, Capt. Prior, and Capt. Whitford, are most encouraging.

**WHEAL ANDERTON.**—The lode under the 70 is improved.

**FLANNERS DOWN.**—We hear that arrangements are on foot to set this mine to work. Above the adit level considerable quantities of ore have been raised.

**WHEAL ANH.**—The leader of mudiic in this lode is now upwards of 2 ft. 6 in. wide, and is still increasing.

**WHEAL CALSTOCK.**—Small branches continue to be cut, as the junction of the lodes is approached.

**WHEAL FRANCO.**—There is no change in the pitches. In the 47, west of the cross-course, the lode is becoming more regular, and has a very promising appearance; in the 47, east of the cross-course, the lode is more perpendicular, is a good paying lode, and is fast improving. The quality of the ore from the 32 to the 47th level, has very much improved; it is quite a different character. In the 62nd level, the capels of the lode are not as hard as they were in the 47, and they appear not to be so thick. In our last we stated that, in addition to the profit in the last four months' working (3542 12s. 3d.), and the balance in hand at the last meeting, there was 1800l. worth of ore in hand. This is correct, but we are requested to add, that the cost for February, about 540l. ought to have been noticed as a liability. We take this opportunity of saying that, our only object being to give correct information, we are obliged for this, as we shall be for all future corrections, although for the omission in this instance we are not answerable.

**MINE ROBBERS.**—On Monday last, a man, called Richard Bryant, was committed by C. W. Popham, Esq., to take his trial at the assizes, for stealing tin from Great Work Mine, in the parish of Breage. When taken into custody, he had secreted in a bag, which was concealed under his clothes, 17 lbs. weight of tin. On a search being made, upwards of 3 cwts. of tin was found buried in his garden. About six weeks ago, a man, called Pelamain, was committed for a similar offence. On Saturday night last, or early on Sunday morning, some persons, entered the account-house of North Roskear Mine, and carried off a large quantity of underground clothes belonging to the agents, which appear to be all that was sought after, as several articles, which they contained, were left untouched. There is no clue to the apprehension of the thieves.—West Briton.

## GREAT WHEAL FREDERICK MINE.

We are unable to make any particular announcement respecting the legal proceedings commenced by Mr. F. B. Thomas against this Journal, for the publication of some correspondence commenting on the formation and management of a company to work the Great Wheal Frederick Mine. On Monday last, we addressed Mr. Thomas's solicitors (Messrs. Dean, Leeks, Dixon, and Redpath, of St. Swithin's-lane), informing them that the writer of the letters signed "Vox," had instructed Messrs. W. and G. T. Woodroffe, of Lincoln's Inn, to meet any proceedings they might be desired to take—at the same time, suggesting whether the matter could not be arranged by mutual explanation through our columns, without incurring legal expenses; and to which communication we have not yet received a reply. We should suppose that Mr. Thomas has decided on adopting the more prudent course we recommended, to that of hazarding the verdict of a jury—we await, however, an intimation to that effect.

## CORNWALL NEW MINING COMPANY.

We are always happy to announce the formation of new companies, formed for the purpose of carrying out mining operations to a large extent, and legitimately embodied for working the capital employed, with that judicious economy which shall secure the pecuniary interests of the shareholders of which such companies are composed. Injudicious, and not always honest, expenditure has been the rock on which many a body of shareholders have split; while more spirited and economical parties have afterwards come in, and reaped immense benefits from a former company's fully and expenditure. We have before us a prospectus of a new company under the above title, formed for working a series of tin and copper mines, principally in the St. Ives district, and proposing, by a cautious selection of those which have been, by judicious workings, not only proved to be rich in minerals, but which will not require an extravagant outlay to render them permanently profitable. The mines at present selected to commence operations on, are Georgia Tin Mines, Trewortha Tin and Copper Mine, Bray and Trevanno Tin and Copper Mines, and Wheal Squire Tin and Copper Mine. The prospectus states, that these mines are so far developed as to enable the committee, with great confidence, to consider them as a source of great wealth; and, from the description of the various localities in the neighbourhood of some of the old best producing mines in the county, we should think the hopes of the committee to be well founded. The capital is 100,000l., in 20,000 shares of 5l. each—2l. 10s. payable in 18 months; and all further calls to be controlled by the subscribers themselves, and not to be made until a dividend has been paid. A respectable provisional committee of six has been formed, with two auditors, and the company will be conducted under the Joint-Stock Companies' Act, 7 and 8 Vic. c. 110.

## EAST BIRCH TOR TIN MINING COMPANY.

This mine, situate on Dartmoor, in the parish of North Bovey, 18 miles west of Exeter, and 14 east of Tavistock, has just been taken up by a company, with the intention of a spirited and rapid development of its riches, which, from the quantities already taken from the surface, and the improvement at the present shallow depth (12 fms. under adit), bids fair to equal its neighbour—the Vitofore, or Birch Tor Mine—from which great quantities of tin have been taken. The sett runs 1500 fms. on the course of the lodes, 500 in breadth, and is held for an unlimited term of years, at 1-25th dues, provided four miners be continually employed. No outlay will be required for machinery, pitwork, &c.—there being all on the mine such as pitwork, water-wheels, lifts, stamps, workshops, buildings, &c.; and the first outlay will be to sink the shafts, drive levels, extend the operations, and prepare ore for the market. The capital for this purpose is fixed at 5000l., in 2500 shares, of 2l. each. There is sufficient surface water to prosecute the mine to a considerable depth; and, from the reports of the agents, there is every appearance of an immediate return and lasting profit. Tributaries are now working on the backs.

## TIN VALE MINING COMPANY.

We received the following report too late to insert in its proper place, among the Mining Correspondence, where, however, one of a previous date will be found:—"Tin Vale Mine, March 15.—I am happy to inform you, that I have two pairs of tributaries, both east and west, on the north lode. The names of the men are Henry Hooper and Charles Colwell, east of the cross-cut; and Edward Bevan and Thomas Gregory, west of the cross-cut; they are good tinners, and are getting fair wages, at 10s. in 12—this is in Rose's adit; in the same adit, also, William Holson and pare are driving west on the middle lode, at 18s. per fm.; the lode in this end is 2 ft. wide, composed of quartz, mica, capels, and tin, with pretty decomposed white granite, by the side of the lode. The end (south) driving towards the great tin lode, is in rather harder ground. There is a great deal of water issuing out of this end, inasmuch that I think we are near some lode, or branch. I have also to inform you, that I have two horses and carts drawing good stuff every day, except Sundays, to supply our stamps; and the tin is a great deal better than I expected, and the stamps are thumping the tin out in first-rate order, inasmuch that I will shortly put in a good batch from Rose's adit. I have also to inform you, that I have about 400 of stream tin, fit for the market, and we are still getting more from the streams. Floyd's adit I have suspended for a little while, as the air is very bad, and have taken the men out of the end, and put them to rise and sink for ventilation, which I hope will be completed next week.—JOHN FLOYD."

**SHERBISHIRE IRON-WORKS.**—We are happy to hear that the colliers and miners have commenced work, at the reduced wages. It is to be hoped that things will be better.

**DOWLAIS IRON-WORKS.**—We are exceedingly rejoiced to learn, on very good authority, that the temporary arrangement of the differences existing respecting the renewal of the Dowlais lease has been followed by a permanent adjustment of the matter, and that those magnificent and extensive works will be resumed with increased energy and vigour.—Cambrian.

**TRADE IN MANCHESTER.**—From the official report, up to Tuesday, it appears that of 208 mills, foundries, &c., within the borough of Manchester, 113 were working full time with full hands, 29 full time with short hands, 48 short time, and 18 stopped. Of 44,531 hands, 30,965 were working full time, 5616 short time, and 7950 were out of employment.

**RAILWAY TESTIMONIAL.**—Mr. E. Mackenzie, the superintendent of the works on the line of railway from Orleans to Tours, has, on the opening of the line, been presented with a magnificent service of plate, of French manufacture, by the workmen and other persons engaged on the railway under his superintendence. So appropriate a mark of the esteem in which this gentleman was held by the various employes on this line of railway, both on account of his abilities in having brought the works to a successful termination, and of his treatment of them in their subordinate capacity, is equally honourable to them, and to the recipient of this flattering mark of their commendable appreciation.

**KIRTON TUNNEL.**—The mining at the Kirton Tunnel was completed on Tuesday last, and that portion of the Manchester, Sheffield, and Lincolnshire line between Grimsby and Gainsborough, is to be opened on the 1st July next.

**GREAT NORTHERN.**—The works on the line, through Doncaster and neighbourhood, still continue to progress rapidly and satisfactorily.

**SCOTTISH CENTRAL.**—On Thursday last, Viscount Duncan was unanimously appointed chairman of the board of directors of this company, vice the Marquis of Breadalbane; and Mr. Bruce, of Kennet, vice-chairman, in consequence of the resignation of Major Moray Stirling, of Abercromby, from indisposition.

**SYSTON AND PETERBOROUGH RAILWAY.**—There is at length a certainty, that this railway will be opened throughout for the transit of goods and coals, on Monday, the 20th inst.

**SOUTH YORKSHIRE.**—A considerable number of hands is now employed on this line, and the blasting of the rock at Levitt Hag, for the deep cutting, commenced a few days since. The work on this portion is very heavy, and will, probably, occupy considerable time.

**BIRMINGHAM AND OXFORD JUNCTION RAILWAY.—THE WAR OF THE GAUGES.—RENEWAL OF HOSTILITIES.**—The half-yearly meeting of proprietors, adjourned a second time from the 4th inst., was held on Saturday last, at Birmingham. It will be recollected that the object of the last adjournment was to receive the result of the negotiations stated to be in progress between the dissentient shareholders of the Birmingham and Oxford Company and the directors of the Great Western, founded upon the propositions made by Mr. Dobie, the solicitor to the former body. After a long discussion, Mr. Mosley moved "that the Great Western Company be forthwith formally called upon to deliver to the shareholders of this company who have paid their calls, the securities now due to them under the agreement of the 12th of Nov. 1846; and in all other respects to carry out that agreement, and that Mr. Dobie write to them requiring their compliance with such demand within one week from this date." This resolution was carried, and the meeting was adjourned to the 23d inst., at the Adelphi Hotel, Liverpool. After this meeting, an adjourned special meeting was held, to consider a bill to enable the company to make deviation lines from Leamington to Warwick, &c. A resolution, moved by Mr. Mosley, that the bill should be opposed, was carried, as was another; that the present solicitors of the company be no longer employed, but that Messrs. Golmore and Beale be retained as such. This meeting was also adjourned to the same day and place as the other.

**THE CHINESE JUNK.**—A correspondent of the *Globe*, writing from Jersey, states that, on the 15th inst., a Chinese junk had arrived in that island. She was supposed to be that which attracted so much attention at New York, and it is reported, that she has on board some valuable presents for the Queen.

**THE WHISK LAST SHIRT.**—There is some talk of repealing the duty on copper ore. Our barons will be little lightened, however, if taxation be taken off copper; and, through the medium of the income tax, levied upon tin.—*Man in the Moon*.

## MEETINGS OF PUBLIC COMPANIES DURING THE WEEK.

**TUESDAY.**—Fleetwood and Furness Steam-Packet Company—offices, at Eleven. English Copper Miners' Company—offices, at Two. London and Birmingham Railway—Guildhall Coffee-house, Twelve. Great Western of Bengal Railway—London Tavern, at One for Two. Great Western of Bengal Railway—Fountain Inn, Liskeard, at Twelve. London and Birmingham Railway—Guildhall Coffee-house, at Twelve. Ratcliffe Gas-Light and Coke Company—offices, at Two. Guardian Assurance Company—offices, at Twelve. Great Rough Tor Consols—offices, at One. Bedford United Mines Company—offices, at Twelve. Mendip Hills Mining Company—offices, at Two. Patient Foot Company—offices, at Twelve. Reservoir Pier and Botanical Gardens Co.—London Tavern, at Two. Economic Life Assurance Company—offices, at Two.

[The meetings of Mining Companies are inserted among the Mining Intelligence.]

## Current Prices of Stocks, Shares, & Metals.

**STOCK EXCHANGE, Saturday morning, Eleven o'clock.**

Bank Stock, 9 per Cent.,	Belgian Bonds, 4½ per Cent., 60 1
3 per Cent. Reduced Ann., 81½ 80½	Dutch, 2½ per Cent., 43 1
3 per Cent. Consols Ann., 81½ 1	Brazilian, 5 per Cent., 71 70½
3½ per Cent. Ann.,	Chilian, 6 per Cent., 88½
Long Annities, 8½	Mexican, 5 per Cent., 145 2
India Stock, 10½ per Cent.,	Spanish, 5 per Cent., 111
3 per Cent. Consols for Acc., 81½ 80½ 1	Ditto 3 per Cent., 22½
Exchequer Bills, 1000l. 3d., 23 6 2 pm.	Portuguese, 4 per Cent., 14½ 14
	Russian, 5 per Cent., 90 89 7

**MINES.**—The amount of business transacted this week in mining shares has been more limited than we have known it for many years past. The fluctuations in Consols, the unsettled position of our commercial interests, and the general depression with the trading community, are the principal tendencies which affect this particular market. But experience has taught us that the mining interest, or rather share market, is not generally influenced to any great extent by these causes; we have, therefore, only to hope, that even this combination of events will not long continue its injurious tendencies. We have noticed that, after a brief suspension of general business, a pleasing re-action has taken place, in consequence of shares in many of our paying mines having been thrown on the market, and forced sales effected, that a demand has taken place at an advance; and, at the present period, we find shares in such mines now for sale, paying from 15 to 25 per cent. on our present quotations—we, therefore, trust that we are only on the eve of a great improvement. At the same time, we cannot look on the present state of things, and calculate on an improved standard for copper ore; we much fear that the smelters will avail themselves of any apparent excuse to create a further depression. The lead market is also affected; and, although we are encouraged with the hope of an improvement, still we cannot entertain it with any degree of probability. We have heard the rumour of some large purchases likely to be effected, in consequence of the warlike attitude presented by some of the continental states—at the same time, we are not advised of any positive business resulting therefrom.

We noticed last week the announcements made of dividends by several of our Cornish mines during the week. We have this week to refer to that of Devon Great Consols, whose directors declared, on Thursday, a dividend of 5s. per 1024th share for the past two months, reserving a very large amount in hand; and, also, a dividend of 5l. per 70th share in North Roskear, leaving a balance of 2168l. in the purser's hands.

The Bedford United Mining Company have declared a dividend of 5s. per share; to enable the proprietors to receive the same, it will be necessary for the scrip to be returned, and the holders registered in accordance with the resolution of a late meeting, the mine being now conducted on the Cost-book Principle.

The Tamar Smelting Company have given notice of paying off another portion of their debentures, this being the third.

Reports have been received this morning, that the lode has been cut in Mary Ann, containing good stones of lead, and making a vast quantity of water—a feature by no means unfavourable.

Shares in the following mines have been transacted—viz.: Devon Great Consols, Carn Brea, Mary Ann, Trehana, Herdsfoot, Mendip Hills, Tamar Consols, Wheal Tolgoe, Treleigh, Wheal Williams, Bedford, Tavy Consols, South Wheal Tolgoe, Cwm-erfin, &c. Letters have been received by the Imperial Brazilian and St. John del Rey Mining Companies, but they furnish nothing important. The business in foreign shares does not require any particular notice this week.

The following arrivals of specie have taken place since last:—The Royal Mail steam-ship *Hibernia* arrived at Liverpool, from New York, on Saturday, the 11th inst., with 40,000l. in specie. On the same day, at Southampton, the Peninsular and Oriental Steam Navigation Company's ship *Euxine*, having packages of specie, with other valuable general cargo. On the 14th inst., arrived at Liverpool, the *Sarah Sands*, from New York, with a few hundred pounds in specie. H. M. S. *Caryfort* arrived at Portsmouth on Wednesday, from the western coast of South America, having on board \$2,127,481 on merchants' account, which was immediately conveyed here. Her freight consisted of 47 loose bars, and 928 boxes of silver.

**RAILWAYS.**—On Monday, the railway share market was still more depressed than in the previous week, and the market remained dull and heavy. On Tuesday, the firmer tone of the funds, during the early part of the day, gave more stability to the market, and, in one or two instances, prices a little improved; but, on the whole, the change was not felt. On Wednesday, things were very indifferent. On Thursday, the public securities were done at advanced prices, and, consequently, the railway market brightened up a little, and participated in the improved feeling; but, notwithstanding, there was little doing yesterday, and things closed very gloomy.

**MEETINGS.**—LOUVAIN A LA SABBIE: general meeting; a very lengthy report was read, which deplored the want of confidence, existing from political changes, and the continued pressure of the money market. In addition, circumstances had come to the directors' knowledge, which prevented them believing that the line, if complete, would be profitable. The receipts had been 220,052l. 8s. 11d.; expenses, 193,547l. 7s. 5d.; balance, 46,122l. 5s.—out of which there was owing 19,576l. 3s. 6d.—SOUTH WESTERN: special; for the purpose of having submitted to them several bills for approval—although there were 10 bills for new railways and extensions. The continuation to London-bridge is to be proceeded with as soon as possible; the other extensions are at Godalming, Cosham, Southampton, and Poole.

**HULL, THURSDAY.**—Shares continue to decline, and all the profits lately have been made by the bears, who are the chief buyers from day to day to close their previous operation. In North British stock especially, much money has been made this way. Dividends were sold off the Exchange yesterday as low as 11½ dis., but they do not offer at this price now. There has been a slight speculative inquiry for Kingston Cotton Mills, owing to a possibility of amalgamation with the old Flax and Cotton Mills, all quite uncertain, of course, at present. There is a disposition to do business in Dock shares, checked by the uncertain position of political affairs; buyers and sellers might, however, be found at a slight difference of price.

## COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

**MONDAY.**—Carr's Hartley 15 6—Chester Main 14 3—Davison's West Hartley 15 6—Dean's Primrose 14—Holywell Main 15—New Tanfield 13 6—Original Tanfield 11 6—Ord's Redheugh 13 9—Pontop Windsor 13—Tanfield Moor 14 6—Wylam 14 9—West Wylam 14 9—Wall's End Bewick and Co. 15 6—Bedley 15 3—Killingworth 15 3—Walker 15 3—Eden Main 16 3—Belmont 16—Bradley's Hetton 16 6—Hawthorn 17 3—Jonsen 15—Lambton 16 9—Morton 16 6—Morrison 15—Russell's Hetton 16 9—Stewart's 17 3, and 17 6—Cassop 16 6—Heugh Hall 15 3—Kelloe 16 3—Trimdon 15 9—Thornley 15 9—Teas 17—West Cornforth 15—Cowpen Hartley 15 6—Howard's West Hartley Netherton 15 6—Caradoc 16 6—Ships at market, 216; sold, 103.

**WEDNESDAY.**—Buddle's West Hartley 15—Carr's Hartley 15—Charlotte 14 3—Chester Main 14 6—Davison's West Hartley 15—Dean's Primrose 13 6—Hastings' Hartley 15—Original Tanfield 11 6—South Pontop 11 6—Tanfield Moor 14 6—Walker's Primrose 12—Wylam 14 6—West Wylam 14 6—Wall's End Bell and Brown 15—Bewick and Co. 15 3—Hedley 15 3—Killingworth 15 3—Walker 15—Washington 14—Eden Main 16 to 16—Belmont 16—Bell 15 6—Hawthorn 17 3—Hetton 17 3—Keepler 16 6—Lambton 16 6—Morton 16 6—Morrison 14 9—Russell's Hetton 16 6—Shotton 16—Stewart's 17—Caradoc 16 6—Hartlepool 17—Hudson's Hartlepool 16 6—Trimdon 15 6—Thornley 15 6—Adelaide 16—Seymour Teas 15 3—Teas 17—West Cornforth 15—Abercave Stone Coal 22—Cowpen Hartley 15—Howard's West Hartley Netherton 15—Newton Main 13 6—Sidney's Hartley 15—Ships at market, 276.

**FRIDAY.**—Buddle's West Hartley 15—Davison's West Hartley 15—Hastings' Hartley 15—Holywell Main 15—New Tanfield 13 6—Pontop Windsor 13—South Peareth 13 6—South Pontop 12—Tanfield Moor 14—Tanfield Moor Butte's 15—Wylam 14—West Wylam 14 6—Wall's End Hedley 15 3—Rintapur 14—Killingworth 15—Bell 15 6—East Hetton 14 3—Hawthorn 17 3—Keepler 16 6—Morrison 15 6—Shotton 16—Stewart's 17—Caradoc 16 6—Heugh Hall 14 9—Adelaide Teas 16—Seymour Teas 15 3—South Durham 14 9—Abercave Stone Coal 22 6—Cowpen Hartley 15—West Hartley Netherton 15—Sidney's Hartley 15—Ships at market, 180; sold, 94; unsold, 116.

**RATING OF COAL MINES.**—At the Wolverhampton Public Office, Messrs. Baldwin were summoned, by the overseers of Bilston, for the non-payment of 108l. for poor-rates. The defence was, that four pils charged were not rateable, inasmuch as they were not in actual work. This having been proved by a bailiff, on behalf of Messrs. Baldwin, the bench refrained from making any order for payment. Some other summonses against other individuals led to the same result.—*Birmingham Advertiser*.

**COMMUNICATION BY POST FROM LIVERPOOL TO SOUTH WALES.**—Messrs. Jevons, Sons, and Co., of Liverpool, have received a letter from the post-office authorities, stating that arrangements have been made with the railway companies for the conveyance of a mail bag from Liverpool to Gloucester, by the express train, leaving Liverpool at 5 p.m., by which means letters will reach Gloucester in time for the London mails proceeding thence to South Wales.—*Liverpool Mercury*.



## LATEST CURRENT PRICES OF METALS.

LONDON, MARCH 17, 1848.

Item	Price	Item	Price
Iron—Bar s. Wales, too	0 0 7 8	Copper—Ord. bottoms	0 0 0 11
“ “ London	0 0 6 8	Yellow Metal Sheet	0 0 0 10
“ “ Nails	0 0 5 0	Tin—Com. blocks	0 0 0 10
“ “ Hoop (S)	0 0 10 0	“ “ bars	0 0 0 4 0
“ “ Sheet	0 0 11 0	“ “ Refined	0 0 0 4 0
“ “ Bars	0 0 10 0	“ “ Straits	0 0 0 3 10
Welsh cold-blast	4 0 4 10	“ “ Banca	0 0 0 4 0
foundry pig	4 0 4 10	Tin—Plates—Ch. 10, 12, 14	1 7 1 9
Scotch pig, Clyde	4 0 3 6	“ “ 1X	1 13 1 15
Rails, average	0 0 7 10	Coke, 10	1 4 6 11
Chairs	0 0 8 0	“ “ 1X	1 0 6 11
Russian, CCND	0 0 17 0	Lead—Sheet	0 0 18 0
“ “ PSI	0 0 0 0	“ “ common	0 0 18 0
“ “ Archangel	0 0 13 0	“ “ Spanish, in bd.	0 0 17 0
“ “ Steel, figt.	0 0 16 0	“ “ Red	0 0 19 0
“ “ keags 13 10 14	0 0 10 0	“ “ Dry White	0 0 24 0
Copper—Tilley	0 0 87 10	“ “ Shot (Patent)	0 0 20 0
“ “ Tough cake	0 0 88 10	Spelter—(Cake) on spot	0 0 16 0
“ “ Best selected	0 0 91 10	“ “ for arrival	15 10 16 0
“ “ Ordin. sheets	0 0 0 0	Zinc—(Sheet) in export	0 0 26 0
“ “ Quicksilver	0 0 0 0	“ “ 70	0 0 0 4 6

Discount 2½ per cent. Net cash. Discount 2½ per cent. Ditto  
in 10 days & 1½ cent. Discount 3 per cent. Discount 2½ per cent. Net cash.  
Discount 1½ per cent. Discount 1½ per cent. Ditto 2½ per cent. Net cash.

(FROM OUR CORRESPONDENTS.)

The demand for all kinds of metal continues very dull; prices are, however, maintained except for Scotch pig-iron, which is 1s. to 2s. lower; and for spelter, on which we have a reduction of 10s. per ton; if it is, however, but fair to mention, that although the current price is 16s. per ton, some holders are prohibited, by their consigners, from selling under 18s. per ton.

GLASGOW PIG IRON TRADE, MARCH 16.—The unsettled state of affairs in France has checked the shipment of pig-iron to that country. This, and the circumstance of one of the largest holders selling freely this week, have caused a considerable fall in the price of the article. We quote the price of mixed Nos. to-day at 43s. to 43s. 6d., cash.

Exports of English and Irish Metals and Minerals.	1846	1847	1848
Coal and culm	2,973,635	2,971,174	2,976,377
Earthenware	828,182	793,166	834,151
Glass	357,421	262,547	292,338
Hardware and cutlery	2,183,000	2,180,587	2,346,255
Machinery	904,961	1,117,470	1,238,091
Metals—iron and steel	3,501,895	4,178,026	5,272,942
Copper and brass	1,694,441	1,538,187	1,467,498
Lead	210,974	147,179	181,771
Tin, unwrought	48,777	107,456	159,098
Tin-plates	615,739	639,223	459,263
Salt	218,302	205,005	260,591

The total amount of exports shows—in 1846, 53,238,026; in 1847, 51,227,060; and in 1848, 60,897,790.

## NEW PATENTS.

H. B. Hobbell, Oxford, goldsmith, for improvements in studs and buttons.  
G. Coode, Haydock Park, Lancashire, for an improved method, or methods, of distributing over land liquids and substances in a liquid or fluent state, and certain improved apparatus and machinery employed therein.  
J. Ashbury, Openshaw, near Manchester, for certain improvements in the construction and manufacture of wheels for use upon railways and common roads, and in the methods of preparing and constructing the tyres used thereon.  
A. Alliot, Lenton Works, Nottingham, bleacher, for improvements in spring apparatus and in balances, also in breaks, and in the means of working breaks.  
J. Forratt, Edinfield, Lancashire, for certain improvements in carding-engines, for carding wool and other fibrous substances.  
F. W. M. Collins, and A. Reynolds, both of Charterhouse-square, Middlesex, engravers and printers, for improvements in the art of ornamenting china, earthenware, and glass.  
J. Hosmer, New Cross, Surrey, surveyor, from improvements in apparatus for supplying water, and for cleaning drains and sewers. —Mechanics' Magazine.

## RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. in miles.	Present actual cost.	Price per share.	Last Div.	Traffic Returns.
Accrington and Forfar	16	£179,939	25	4 p. c.	£ 219
Birkenhead, Lancashire, & Chesh.	15	706,793	37	—	599 586
Calderhead	130	3,594,470	29	—	2568
Derby and Drogheda	35	733,655	52	8	715 739
Derby and Kington	75	473,282	27	7	604 619
Dundee, Perth, & Aberdeen Junction	47	285,746	30	6	795 283
East Anglian (Lynn to Ely)	54	1,062,742	71	—	687
East Lancashire	24	1,733,915	18	—	953 690
Eastern Counties	221½	7,698,370	13	5	10502 6717
Eastern Union	50	979,926	80	—	1005 784
Edinburgh and Glasgow	53	2,375,745	37	6	3119 3234
Edinburgh and Northern	29	953,207	18	—	1003
Glasgow, Paisley, and Ayr	64	1,890,541	53	7	3058 2136
Glasgow, Paisley, & Greenock	23	1,185,260	16	—	924 1020
Gt. Southern & Western, Ireland	110½	1,876,326	18	—	1929 1045
Gt. Western	281½	10,970,636	22	7	16336 15708
Kendal and Windermere	10½	169,883	93	—	114
Lancaster and Carlisle	70	1,395,193	45	4	1497
Lancashire and Yorkshire	124½	6,807,414	86	7	9024 8311
London and North Western	42½	21,513,354	128	8	34866 34969
London and Blackwall	47½	2,857,746	30	—	684 703
London, Brighton, & South Coast	152½	6,087,822	20½	—	6203 5077
London and South Western	189	6,264,164	47	8	6296 6059
Londonderry and Enniskillen	14½	160,013	16	—	157
Manchester, Sheffield, & Lincolnshire	46	2,336,621	80	5	1990 1751
Maryport and Carlisle	28	424,417	39	3	479 582
Midland Company	402½	8,658,604	99	7	18955 17014
Midland Great Western (Irish)	36½	1,583,776	101	—	972 1000
Newcastle and Carlisle	66½	1,181,080	101½	6	2023 2000
Norfolk	91½	1,376,633	60	6	1642 1502
North British	78	2,514,150	21	5	1811 1323
Shrewsbury and Chester	17	591,158	11	—	608 319
South Devon	29	1,339,860	20	—	744 48
South-Eastern	165½	6,398,218	23½	6	6886 5767
Taff Vale	38	785,607	—	5	1901 1307
Ulster	23	646,211	—	6	166 724
Whitehaven Junction	12	147,095	—	6	166 724
York, Newcastle, & Berwick	236½	3,685,102	29½	9	10063 8809
York and North Midland	230½	3,190,869	60	10	7474 5196

## FOREIGN RAILWAYS.

Lines and Boulogne.	Length in miles.	Capital.	Present value.
Antwerp to Ghent (monthly)	31	573,338	54
Belgian	—	—	—
Dutch Rhineish	57½	—	—
Northern of France	211	2,000,000	28
Orleans to Bourges (Central)	107½	—	—
Orleans to Tours	72	600,000	32½
Paris and Orléans	79	2,381,720	28
Paris and Rouen	85	2,082,916	16½
Rouen and Havre	59½	—	—
Strasbourg and Basle (monthly)	58	—	—
Wesph. Flanders (ditto)	—	—	—

Total earnings for last week, £160,036, being an increase of £22,164 over last year.

## JOINT-STOCK BANKS.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
22,500	Australasia	£40	—	£20
20,000	British North American	50	6	41
20,000	Colonial	25	5	9
—	Commercial of London	20	—	20 20½
4,000	Ionian State	25	6	24½ 25
60,000	London Joint-Stock	10	6	132
20,000	London and Westminster	20	—	22½
10,000	National Provincial of England	35	5	36
20,000	National of Ireland	22½	5	17
20,000	Provincial of Ireland	25	8	40
4,000	Ditto New	10	—	15
20,000	Union of Australia	25	6	28½
10,000	Ditto New	24	6	24 2½
60,000	Union of London	16	5	10 10½

## GAS-LIGHT AND COKE COMPANIES.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
9,000	British (London)	£18	—	£17
—	Ditto (country)	19	—	22½
1,000	City of London	100	10	265
1,000	Ditto New	100	10	265
4,000	Equitable	50	5	35 36
10,000	European	20	—	18
12,000	Gas-Light and Coke Chartered Co.	50	10	55 56
8,000	Ditto New	10	6	11 11½
9,000	General United Gas-Light Company	50	2	16
10,000	Imperial	50	6	74 76
40,000	Ditto Debentures	100	4	100
10,000	Imperial Continental	39½	4½	54 56
7,000	Ditto New	38	4½	61
54,000	Ditto Debentures	100	6	108 109
3,000	Independent	50	6	64
3,000	London	50	6	30 40
2,000	Ditto	50	6	10 15
9,000	Phoenix, or South London	40	8	81½
1,000	Railway	80	8	80
4,000	South Metropolitan	25	6	30 32

## PRICES OF MINING SHARES.

BRITISH MINES.				BRITISH MINES—continued.			
Shares.	Company.	Paid.	Price.	Shares.	Company.	Paid.	Price.
1000	Aberdeen	7	—	2500	Silver Valley	34	—
512	Albert Consols.	—	2½	1100	South Dulcuth	—	—
1024	Alfred Consols.	44	14	128	South Carlisle	—	450
335	Andrew and Nangle	26½	11½	256	St. Friend's Wh. Ann	16	25
1000	Andriany and Silver	—	5	200	South Harwardish	10	25
—	Lead Mining & Smelting	—	5	256	South Tolgus	74	60
1624	Baldewiden	9	19	128	South Trevelyan	90	—
128	Baindon Consols.	25	25	128	South Trevelyan	164	20
1000	Barnwell Iron Co.	2	—	128	South Wh. Betsy	24	5
1000	Barristown	44	5	256	South Wh. Betsy	24	5
4000	Bedford	24	24	124	South Wh. Francis	160	210
128	Beauregard Mine	14	10	256	South Wh. Hope	—	0
1244	Birch Turf Tin Mine	51	4	1000	South Wh. Maria	21	2
8000	Biscanvon	50	23	256	South Wheel Rose	112	—
100	Botolph	175	80	256	South Wh. Sophia	4	44
120	Brewer	—	7	10000	Southern & Western, Irish	3	—
10000	British Iron, New, regis.	10	13	256	Trevelyan	14	26
—	Ditto ditto, scrip.	10	12	256	St. Austell Consols.	9	6
128	Budnick Consols.	32½	30	94	St. Ives Consols.	—	320
128	Burth	30	21	128	St. Michael Peakivel	0	10
100	British Consols.	20	20	999	St. Mineral Consols.	1	6
128	Calstock	17	30	1000	Stray Park	43	18
1000	Callington	19	32	9600	Tamar Consols.	3	44
2000	Cameron's Steam Coal	4	6½	1024	Tary Consols.	4	7-10-12
256	Caradon Copper Mine	9½	2	256	Trevelyan	7	11
256	Caradon Mines	22½	17	1000	Tin Valley	—	11
256	Caradon United	24	—	98	Tolkenbury	1474	10
256	Caradon W. Hooper	21	5	256	Trevelyan	2	25
1000	Carrs Bros.	15	105	5000	Trevelyan	6	8
3000	Carthol Consols.	14	6	2000	Trevelyan	2	50
3048	Cascade	1	2	96	Trevelyan	10	210
112	Charlestown	220	30	120	Trevelyan	—	150
166	Cleveland	9	5	120	Trevelyan and Barrier	120	136
812	Coalville Hill	—	2	256	Trevelyan	14	26
1900	Combarnia	71	8	128	Trevelyan	12	264
1000	Conblaw	61	6	100	United Mines	300	350
128	Confort	45	90	256	Willington Mines	15	80
256	Coudarow	20	30	128	West Bassett	45	30
256	Cook's Kitchen	14	2	256	West Caradon	20	100
2048	Coombe Tin Mine	44	4½	128	West Cargill	2	12
1000	Coombe Valley Quarry	24	24	512	West Fowey Consols.	40	15
1000	Coppy Bottom	1	20	256	West Freeland	—	15
1024	Crofton	16	13	256	West Serton	44	150
240	Cradock Moor	16	13	—	West of Scotland Iron Co.	210	210
128	Craig Haws	129	100	120	West Trevelyan	6	30
600	Cubert Mine	121	15	256	West United Hills	—	5-8
1000	Cwm Erwin	16	2½	256	West Wh. Friendship	9	12
2048	Dartmoor Consols.	8	2	3845	West Wheel Jewel	11	14
7000	D.Prior & Buckfastleigh	14	26	256	West Wh. Joseph	3	1
3000	Demolisa Mines	2	—	256	West Wheel Shepherd	5	24
7100	Dunbar	61	5	256	West Wheel Trevelyan	214	5
1024	Devon Consols.	74	24	256	West Wheel Trevelyan	14	10
1024	Devon Great Consols.	1	210-15	2000	Wicklow Copper	5	114
1000	Durham	2	5	184	Wheel Adams	51	10
186	Dulcuth	30	50	1000	Wheel Agar	—	10
2500	Drake Walls	4	4	256	Wheel Albert	10	—
10000	Durham County Coal	45	5	128	Wheel Acland	18	3
8000	Dyfnwy	10	12½	256	Wheel Allen	2	5
256	East Alway	19	25	256	Wheel Anderson	21	26
112	East Caradon	47	47	256	Wheel Ash	—	604
2048	East Crowndale	51	41	512	Wheel Ann, Bridford	1	—
512	East East Silver-Lead	61	61	512	Wheel Anna Maria	31	5
128	East Pool	5	20	1024	Wheel Ash	44	8
100	East Rellian	22	40	20	Wheel Isl	54	20
—	East Wheel Albert	1	3	2560	Wheel Barbara	14	4-5
94	East Wheel Croft	125	260	256	Wheel Benny	102	6
1024	East Wheel Fortune	2	3	256	Wheel Blencowe	21	6
1024	East Wheel Friendship	8	3	256	Wheel Buckland	20	25
128	East Wheel Rose	50	1160	256	Wheel Cargill	—	84
2048	East Wh. Hough Tor	—	2	136	Wheel Clifford	1900	190
—	East of Scotland Iron Co.	24	14	1024	Wheel Coal	—	5
123	East Wheel Seton	14	15	128	Wheel Conrway	—	20
256	Edinburgh	14	2	6000	Wheel Curtis	3	31
256	Edinburgh W. Eliza	34	6	256	Wheel Dyke	12	13
6000	Edinburgh W. Eliza	44	46	256	Wheel Fortescue	64	5
4000	Gadair	2	—	512	Wheel Fortune Consols	31	64
4000	Galloway Iron Co.	10	21	2048	Wheel Fortescue	—	5
4000	Gen. Mining Co. for Ireland	12	28	3048	Wheel Franco	27	55-38
2048	Georgia Tin Mines	16	12	256	Wheel Harriet	45	50
256	Gonauena	32½	30	256	Wheel Jane	21	18
128	Goures	4	14	256	Wheel Louisa	81	8
100	Great Consols.	1900	400	112	Wheel Margaret	79	350
256	Great Calstock Mines	22	25	512	Wheel Mary Ann	0	20
256	Great Allicell Consols	14	2½	256	Wheel Mary Consols.	40	95
512	Great Reaughu Moor	11	12	910	Wheel Prospect	4	26
512	Gr. Wh. Hough Tor Con.	104	18	120	Wheel Rose	44	150
100	Grogron	7	10	128	Wheel Rose	60	15
256	Gwynar Consols.	7	10	2048	Wheel Samson	—	20
6000	Harrogate Downy Co.	4	2½	99	Wheel Serton	214	1000
256	Herodcombe	54	44	256	Wheel Sisters	304	17
256	Herodcombe	18	18	128	Wheel Sophia	54	10
10000	Hibernian	124	18	128	Wheel Spence	10	73
239	Hobbs Hill	6	8	128	Wheel St. Ann	9	15
1000	Holmshush	19	11	256	Wheel Trevelyan	74	95
827	Kirkcubrightshire	54	5	256	Wheel Trevelyan & Erwin	—	20
600	Lancashire Consols.	4	5	256	Wheel Trevelyan	45	25
3048	Lancashire W. Maria	11	4	128	Wheel Trew	20	21
128	Lant Consols	90	60	256	Wheel Trevelyan	8	4
160	Levant	—	90	92	Wheel Tryphena	140	265
1000	Lewis	15	6½	242	Wheel Venland	294	30
1000	Livny Males	5	5	184	Wheel Vyryan	—	60
3600	Livny Iron	50	50	256	Wheel Walsley	6	14
256	Lowthwell Consols	15	15	FOREIGN MINES.			
6000	Marke Valley	10	4	5000	Allen Mining Company	144	8
5000	Mendip Hill	22	14	15000	Asturian Mining Co.	13	4
5000	Merionethshire Slate	14	2	20000	Australian	24	34-2
2000	Mining Co. of Ireland	7	7	10000	Anglo-Mexican Co.	100	2
256	New East Crowndale	31	31	12374	Ditto Subscription	25	24
128	North Fowey Consols.	37	34	6000	Barossa Range	4	9
1000	North Pool	45	475	3000	Bolano	—	150
1000	North Rokeby	8	180	3000	Ditto Scrip	—	25
256	North W. Abraham	1	1	15000	British Imperial	43	64
256	North W. Leisure	1	2	10000	Cobre Copper Co.	40	18
128	North W. Providence	24	3	8500	Colombian Co. regis.	55	1
10000	Northern Coal Co.	23	2	5000	Ditto Scrip	—	51
4000	Par Consols.	—	1000	5000	Copparo Mining Co.	14	24
128	Pennant	14	24	10000	General Mining Ass'n.	20	131
1000	Pennine	—	68	5000	Kingslight Mining Ass.	24	24
1280	Perran St. George	13	30	20051	Mexican Copper Corp.	69	—
128	Perran W. Virgin	94	15	15000	Mexican & S. American	4	16
512	Plymouth W. Yealand	61	21	5000	Mocantus & Copcas	30	4-6
256	Plymouth Consols	44	7	29320	{ R.I. del Monte, regis. }	281	14-2
31	Providence Mines	33	48	—	Ditto unregistered	—	10
100	Rhymer Iron	60	20	—	Ditto Red Debutens	—	10
10	Ditto New	7	64	—	Ditto Black ditto	—	6
9	Rhosiddid Mine	—	—	—	Ditto Loan Notes	150	60
6	Rose Consols	10	2	7000	Royal Salsburg	16	6
6	Rosewood	1	2	2000	Rubish Mine	1	44
6	Rosierwa Mine	1	2	11000	St. John del Rey	15	64-2
6	Shotts Iron Company	50	55	13174	United Mexican	—	281



## NOTICES TO CORRESPONDENTS.

It will at all times be much trouble, and frequently considerable delay, if communications are simply directed—  
To THE EDITOR,  
Mining Journal Office,  
35, FLEET STREET, LONDON.

Also, to avoid trouble, Post-Office Orders should always be made payable to WILLIAM HARRISON MANSELL, as acting for the proprietors.

We should feel obliged to all pursers, captains, or adventurers, to forward particulars of meetings, &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the Journal with as little delay as possible.

## Glossary of Mining Terms.

We are preparing for publication, as a neat pocket volume, our Glossary of English and Foreign Mining and Smelting Terms. The new edition will comprise several corrections in the Cornish Terms; also, the additions with which we have since been favoured by correspondents—comprising those of South Staffordshire and Newcastle.

**MURDER HILLS MINE.**—We have received, from a correspondent, some rather severe remarks on the system of management pursued by the directors of this company; but, as their insertion previous to the meeting, might be considered a prejudgment of the parties, and to improperly influence the shareholders, we have withheld their appearance until our next. The letters we have already published, with those in our present Journal, ought sufficiently to awaken the proprietors to a proper sense of duty, and prompt them to exertion in securing a proper and economical management of their property.

**TAVY CONSOLS.**—We are obliged to Mr. W. H. Parker for his letter, but we must decline publishing any further communications respecting this mine, other than the official reports. By three letters, which we received yesterday, from Plymouth—Geo. Partridge, 10, Cornhill-street; "Justitia," Sumerland-place; and "A Shareholder," 18, Cornhill-street—it would appear that much interest is felt in the mine at that place; could not the parties convene a meeting, and request the captain to attend? when the actual state and prospects of the sett could be ascertained.

**THE IRON TRADE.**—"An Old Subscriber" is anxious to obtain "the general sizes and average monthly returns of the blast-furnaces of Sweden and the continent generally, or so far as it may be possible to be gathered." This information would be generally interesting; and we should feel obliged to any of our correspondents who would favour us with it.

**Bristol.**—See an article on the subject in the Mining Journal of the 11th Dec.

We have already published the problem of "J. W.," and we cannot see the necessity of repeating it in its altered form. We shall, however, readily afford space for a solution. We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses; not that their communications should, consequently, be noticed, but as an earnest to assist their good faith.

THE MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 35, Fleet-street, and can be obtained, before Twelve, of all news-agents, at the Royal Exchange, and other parts of London.

## THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, MARCH 18, 1848.

The commercial and trading interests of the kingdom have, in no sense, rallied, or improved, in an appreciable degree, throughout the week just concluded. Things are, perhaps, a shade steadier—the vibrations of the pendulum of the European exchanges are a little less intense than they were a fortnight since—the confidence of mercantile men is, in some small degree, re-assured; but trade, as an active element—business, as a general occupation—continues in a state of painful depression. There is no successful reasoning against facts—no strength of asseveration can prevail against the force of truth. We have, it is undeniable, almost at our doors, a vast organic change—a total reconstruction of the political elements in favour of, it is alleged, popular freedom and human progress; but we have also the fountains of trade broken up, and public industry paralysed—it is a heavy price to pay for a change so questionable and so perilous. However, we are bound to hope the best, and shall be content with any alterations that do not endanger public security, nor invade public repose. Our account of mining transactions, in last week's Journal, will have apprised our readers of the full and handsome character of the dividends which some of the mines have recently conveyed to the pockets of their proprietors; these same mines, and others we can enumerate, are going forward in the same career of success, and will shortly be declaring dividends of a similarly-favourable character. From these statements, the public will see, that mines, taken together, offer advantages to the investment of capital, which are not surpassed by the most popular kinds of stock to be found in this, or in any other country. The shares in prosperous mines continue at a reasonable price—in fact, are procurable at a lower figure than they would have stood at, had not the recent agitations in the political world kept all descriptions of stock down almost at the freezing point, or at a humble elevation, not much above it. Money, in the great market, continues in abundance; and we hold to the opinion, formerly expressed, that prices in general, as a matter of necessity, must go up so soon as ever commerce is released from those irregular and transient causes, which fetter her aspiring wing.

Since the revolution in Paris, public attention has been exclusively directed to the daily news from the continent; and a period must still elapse, to ascertain the political construction of the National Assembly, before the public mind will confidently return to the advancement of their investments at home, depressed in value by the present position of affairs in France. The important point next to be developed, is the political character of the representatives to constitute the National Assembly—the number of them (900) being considerable, and the pay (25 fr. per diem) attractive to the ardent Republican party.

In the interim, there is the additional disorganisation arising out of the failures of some of the Paris bankers, and the determination of others, of high reputation, to suspend further business. The determination of these important capitalists to retire from business—at all events, for the present—and the feeling shown amongst the *élite* of the National Guard against the candidates of M. LEDRU ROLLIN's extreme views, will strengthen the *modéré* party, and give hope for the provinces sending to the National Assembly a majority that will promote greater confidence than now exists, allowing for the majority of the Provisional Government having the best intentions. France will have enough to do to regulate her own domestic concerns, with which neither England, nor the other important powers, intend to interfere. England and Prussia have openly declared this intention; and the Austrian Ambassador having received instructions to remain at Paris, demonstrates this policy will, likewise, regulate Austria; and there is no reason to anticipate any deviation from this course on the part of Russia, as any contrary movement would be inoperative without the concurrence of Prussia and Austria. Before this revolution in France, it was fortunate a constitution had been granted to Piedmont, Tuscany, and Naples; and it is satisfactory to see, from the Sicilian advices, expectation is entertained that, through the mediation of Lord Minto, the affairs of that island may be settled.

The accounts continue to be favourable for concessions to the Lombards from the Austrian Government; and the reforms in the small German states are being carried out in a way to strengthen the imperial and federal power in Germany; and the *Times*, in its publication of yesterday, remarks these events are "auspicious for the peace and prosperity of Europe, and, in all respects, conformable to the permanent continental interest and policy of Great Britain." Hence, all the passing continental occurrences tend to remove apprehensions of war; and if to the influx of capital into Great Britain is added, with the blessing of Providence, a good harvest, the reaction in the funds, and other eligible securities in railways, &c., will reappear with renewed vigour.

It has repeatedly been our painful duty to have to call attention to the unjust conduct of parties—shareholders in mines—in withholding payment of their calls, and, consequently, their quota of the just debts incurred, and of the capital necessary for the spirited prosecution of the undertaking in which they have embarked. It

is, unfortunately, too common a case, and one which has led to the detriment, and even upset, of many a valuable mine, that parties who have paid a first deposit, and probably a call, should the concern not prove immediately profitable, hang back, and refuse to, or at least refrain from, fairly meeting their fellow adventurers, and subscribing in equal portions, *pro rata*, of the costs incurred of a first outlay in opening the mine—while should a sudden burst of good fortune attend their proceedings, such parties would be the first to press forward and claim their right as a shareholder. Such conduct—while it is absolutely unjust to their co-adventurers who do pay—is exceedingly unwise, as tending to bring the undertaking into disrepute, cause the merchants much doubt and dissatisfaction in the supply of materials, and eventually, unless calls are rigidly enforced by the pursers or directors, ultimately stop the mine, which is then probably taken up by another party, who set to in earnest, and with proper spirit, to develop its resources, and probably make a valuable discovery, to the chagrin of the previous adventurers, and particularly to those shareholders whose conduct alone led to their own losses and those also of their co-partners. It would be well if in all mining companies a rule could be acted upon, in future, either to sue defaulters after a definite and certain time, or else at once advertise the names, and forfeit their shares for the benefit of the company. Every man goes in to an adventure with his eyes open, and he ought to be compelled to stand the brunt of the battle equal with the rest of the adventurers; and if the above plan were rigidly enforced, few would relish the exposure, and calls be much more promptly met.

In another column, will be found a report of the meeting of the SOUTHERN AND WESTERN MINING COMPANY OF IRELAND—the directors' report read to which we published in the MINING JOURNAL of the 4th inst., and which document requires some explanation. From the statement of the accounts there given, it would appear as if the entire sum of 25,587l. 17s. 8d. was expended, with the exception of the 1114l. 14s. 11d. in the banker's hands—while such is not the case, as the 19,827l. 10s., stated to have been paid to the Gurtavallig proprietors, was not in money, but as part payment of 9000 shares, with 50s. per share considered paid up—the Gurtavallig proprietors being still creditors for 69 shares. The capital divided into 10000 shares, at 50s. per share, thus left 2000 shares to sell for cash for working the mine, and, therefore, stands thus—

Capital .....	£5000 0 0
From Gurtavallig proprietors .....	1000 0 0
Instalment on deposits .....	37 17 8
Deposits on 69 shares to be accounted for to Gurtavallig proprietors .....	173 10 0

Yet due on unpaid calls .....	£6210 7 8
.....	450 0 0
.....	£6760 7 8

Labour cost, materials, building, &c. ....	£2880 15 0
Expenses of charter and conveyance of lease .....	1764 17 9
.....	£4645 12 9

Balance at banker's .....

This exhibition shows that the large sum of 25,587l. 17s. 8d. was not expended—the item of 2880l. 15s. being all the cost for labour, materials, building houses, forges, bucking and cobbing houses, floors, ponds, water-courses, &c., which cost about 1300l.—leaving little more than 1500l. for exploring 475 fms. of ore ground, cross-courses, &c. We understand that the principal part of ground is yet whole—that is, that very little has been stoped away, but more ground is being opened up; and, from the size and quality of the lodes, there is little doubt of complete success, and that the shareholders may congratulate themselves on having a valuable mine.

We at all times regret, and, indeed, feel pained, to hear of anything (particularly when connected with mine management) savouring in the least degree of misplaced confidence, and abuse of power and trust, more especially when the parties entrusted are placed at the head of large and expensive establishments, and are individuals moving in a circle of great respectability, no matter what their origin. It is not in our nature, neither is it in accordance with our practice, generally to be pointedly personal; still, when we see a large number of persons misled, and unjustly suffering, either in a pecuniary point of view, or otherwise, by the commissions and omissions of one or two, at most, then we think, should such practices be permitted to pass unnoticed and unchecked, that a repetition of them would tend to throw suspicion and distrust, if not discredit, on mine management at large.

We shall refrain from going minutely into the particulars of the cases alluded to—suffice it to say, that more than one mine, in a highly important and well-known mining locality, is, at this moment, suffering to an alarming extent from the effects of a species of mismanagement. We understand, in reference to one of the mines in question, that the adventurers, during the last 15 or 18 months, have been led to expect the payment of dividends; but, to their utter dismay and surprise, at an audit of accounts, recently held, there appeared to be a balance against the mine of some thousands of pounds; and, instead of a dividend, a call to a serious and heavy amount was necessarily the consequence.

But why, it may be asked, did not the adventurers look into the matter themselves, and call a meeting, and demand a production of the books? Because, it may be answered, the adventurers generally were not in a position to help themselves, from the fact of the parties having the management being so thoroughly under the wing and protection of patronage and power, that by representations and misrepresentations, things were so ordered and managed, as to suit their own individual ends and purposes—*vide the result*.

May there not be Guizots (so far as oppression, deception, and tyranny go) in certain mining localities of England, as well as their proposed measures who meet with the approbation of their head and king?—and, so long as they succeed in blinding him with one-sided reports and half-sided statements, so long, assuredly, will they continue to lord and ride over all those who come within the pale of their jurisdiction—to wit, the adventurer often as a dependent, the sub-agent, too, often as a mere automaton, and the labouring man, alas! too often as simply a beast of burden. May the fate of Guizot operate as a timely and salutary warning to all those into whose hands are placed the reins of mining or political Government—for surely, sooner or later, a day of reckoning will come.

**GOVERNMENT CONTRACT FOR COAL.**—On Thursday last, the 16th inst., the Commissioners for executing the Office of Lord High Admiral of Great Britain and Ireland, concluded a contract for supplying and delivering at Malta, 5000 tons of coal, fit for the service of her Majesty's steam-vessels. There was strong competition for the contract, which was taken at 25 pence less than the price paid in January last. It is stated, that Government intend to make the experiment of employing English and American coal mixed, for the use of the steam navy on the East and West India stations, the coast of Africa, and the Pacific, not only on the score of economy, but also for the sake of facility of transport.

**THE IRON TRADE.**—Notwithstanding the general stagnation which has so long unfortunately existed in the iron trade, it is to be hoped that a reaction is about taking place, and that as the spring advances the furnaces will be in full activity. In the hope of this better state of things, some of the masters are in some degree preparing themselves for orders. We understand, that at the Caponfield furnaces of Messrs. Bagnall and Sons, near Bilston, and under the management of Mr. W. Murrell, the make of iron during the fortnight ended March 8 inst., was 945 tons from three furnaces, or 157½ tons, for each furnace per week. The furnaces stood idle 28 hours out of the fortnight. We trust another month will show considerable activity in the trade.

**RAILWAY IRON.**—An importation of nearly 400 bars of railway-iron has taken place by a vessel arrived from New York. This is one of several arrivals of the kind which have taken place from the United States of America.

## PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

As was to be expected, the revolution has led to a financial crisis, and this crisis has been the great topic of conversation, and the great subject of public anxiety, during the past week. The crisis has been most disastrous—it has occasioned the suspension of payment of some 15 or 16 banks, among which are those of Goussier, Charles Lafitte's, and Ganneron's; it has broken up several large commercial establishments; it has brought down the funds, railway shares, and shares in all enterprises whatsoever; and it has caused most serious embarrassment and loss to all trades, and almost to everybody. Last, but not least, it led to a run for specie on the Bank of France.

This run the bank bore manfully on Monday, Tuesday, and yesterday; but yesterday afternoon it became evident that it could not hold out much longer, unless some extraordinary measures for its relief were to be taken. Accordingly, it applied to the Government, and this morning a decree appears in the *Moniteur*, declaring, that bank notes shall henceforth be a legal tender, and that the bank shall not be called on to pay them in specie. The bank is, moreover, authorised to issue a number of new notes of 100 fr. (4l.); but the amount of all its issues is not to exceed 14,000,000l. sterling.

Very few transactions, indeed, have taken place during the crisis, in mines, or metallurgical enterprises. In the *Vieille Montagne*, however, a purchase of shares was effected on Monday, at 2500 fr., being a fall, at one fell swoop, of 3000 fr., or 120l. Yesterday, they were done at 2200 fr.—another fall of 12l. This is dreadful, and yet it is not equal to what some other concerns have suffered—the Bank of France, for instance. In the *Lyonnais Bourse*, shares in the mines of the Loire were last sold at 315 fr.

Things here are deplorable; and yet, perhaps, on the whole, there is no reason to despair. If all remains tranquil, they will soon improve, and that all will be tranquil, there seems, at this moment, a fair assurance. The only thing with respect to which serious alarm was entertained, was a circular of M. Ledru Rollin, the Minister of the Interior, in which he invested his agents in the provinces with excessive powers, and recommended them to carry the elections with a high hand, and, in fact, employ downright intimidation. The middle class of society seeing that this not only threatened to deprive them of all influence, but went to prevent the peaceable exercise of their rights, made such strong representations on the subject to the Government, that the circular has been withdrawn. It was even said, that M. Ledru Rollin would be turned out of the Ministry, but this is untrue. It is certain, however, that he will never think of acting on his circular; and, consequently, all immediate prospect of a collision between different classes of society is removed. Observe, however, I am only speaking of the present moment; there is no saying, that another topic of discussion may not arise to-morrow.

The Minister of Marine announces, that on the 30th March, he will receive offers for the supply of 2500 tons of English coal for Goussier, and of 1200 tons of English coal for St. Louis, in Senegal. This announcement affords me an opportunity of mentioning, that several persons whom I have consulted, express a confident opinion that no serious apprehension need be entertained by the English, of their being compelled to lose their exports of coal to France, whatever may happen in this country. If there should be domestic anarchy, the manufactures, &c., which at present use English coal, would, no doubt, be partially closed, whereby the consumption would be by so much diminished; but it is said, that this diminution would be made up, by the necessity of supplying the colonies and the places which at present draw part of their coal from France. And if there should be war, the demand for English coal, far from being lessened, would be greatly increased, for the steamers would have to depend exclusively on it. Even a war with England, it is said, would not materially affect the demand—supposing it did not actually increase it.

Strange as it may appear, in the midst of such tremendous political excitement, I assure you that, as the *Mining Journal* has already intimated, there is a prospect of such a revision of the tariffs as would favour the introduction of our iron, &c., into this country—in fact, in my humble opinion, the prospect has never been so bright. In several of the newspapers, and in a great many of the clubs, it is broadly laid down, that the day of monopoly and privileges, has passed away for ever; and the principle that the working classes have an undoubted right to demand the admission, duty free, of all raw materials, and more especially of iron, is also insisted on. This is very encouraging, and the more so, when we reflect that the National Assembly will be composed mainly, if not wholly, of the very class to whom such doctrines will be peculiarly acceptable. It cannot be supposed that that class, after declaring all men equal in rights, and after abolishing all privileges and all titles of nobility, will allow the nation to continue to support an odious burden of taxation, for the benefit of a small band of monopolists, who have for years wrung millions upon millions from the people, without rendering the slightest service in return; nor can it be supposed, that the enlightened majority of the National Assembly will be blind to the fact, that the admission of iron, duty free, would afford employment to an immense number of persons, who have at present no work—for it would lead to iron being employed in a thousand ways, which have never yet been thought of in France.

I mentioned, in my last, that the men of the Coal Mines of Anzin had struck for an advance of wages, but had, subsequently, returned to their work. The Government has since sent a note to the newspapers, stating that the difference which had arisen between the men and their employers, had been settled by a special commissioner, sent down to Anzin: he has arranged, that the pay of the men shall be increased to 2 fr. 50 c. (about 2s. 2d. per day), for the labour of from 8 to 10 hours. The newspaper notes say, that this price gives great satisfaction to the men, without encroaching too much on the profits of the employers. The latter, it is added, have determined not to make any addition to the price of coal, in consequence of this increase in the pay of the men.

I have received letters from different parts of the country, but not making any mention of any important works having stopped. The important works at Montataire have, like the others, been kept going; in fact, the metallurgical establishments appear not to have known that there has been a revolution.

**P.S.**—An extraordinary meeting of the shareholders of the *Vieille Montagne* Company is to be held on Saturday. The shares have been done to-day on the Bourse at 2400 fr.—Paris, Thursday.

**FRENCH TRANS-ATLANTIC STEAMERS.**—In consequence of the failure of the boilers and machinery of the four vessels which passed between Havre and New York—the *Union*, the *Missouri*, the *Philadelphia*, and the *New York*—which had been constructed of inferior French iron, and were considered unsafe, the entire machinery and boilers have been taken out, and will be replaced by new ones of 550-horse power, while the former ones were only 450; they will be constructed on the most improved principles of entire English manufacture. The *Union* is expected to be ready for sea early next month, and for the future Welsh anthracite and British coal only is to be employed. The present Government of France intends a searching reform in the steam navy; which, according to the report of the commissioner appointed by the late Minister, the Duke de Montebello, is far from being in an effective state; the machinery and boilers having been supplied by contracts, and that principally by the late Government favourites, the material is, in many cases, of that inferior quality as to be totally unfit for service. This determination on the part of the Provisional Government has excited no little anxiety among the French ironmasters and machinists, as it is expected that a project of law will be passed immediately after the meeting of the new Chamber of Deputies, for the admission of British, Belgian, and Swedish iron, at a moderate duty, particularly for ship building, locomotives, and steam-engines for the navy, and also a great reduction in the duty on British coal. The Customs laws also are to undergo a complete revision, so as to place them in a state of reciprocity with other nations. The greater part of the iron-works of France are nearly at a standstill, and, probably, will remain so until the nature of the Government measure is ascertained.

**SAILING OF THE NORTH AMERICAN PACKETS.**—The Right Hon. the Marquis of Clanricarde, the Postmaster General, has issued a notice, that during the ensuing summer, mails will be transmitted between Liverpool and North America, once a week, by the British Contract Mail Steam-Packets, which will leave Liverpool for Boston and New York alternately on every Saturday, and will be dispatched from Boston and New York alternately on their return voyage every Wednesday.

**MUSICAL STONES.**—About three miles from Pottstown, in the United States, there is a place to which the name of the Singing Valley is given. There is in this valley a large mass of ill-shaped stones, which appear to have been thrown together by some terrible convulsion of Nature. From the appearance of the stones, it is judged that at some former time a volcanic eruption must have occurred there. By striking on these stones the most varied sounds imaginable are produced: the chiming of the finest bells in the world does not exceed in variety the sounds produced, from the sonorous base to the most delicate treble, the grittings of which are exquisitely fine. No such phenomenon is to be found in any other part of the world.







ever found. They obtain, in transition, limestone, which enshrines the fossil remains of marine productions. Where calcareous matter drips from the roof, the same thickness nearly, is found on the floor. The oolitic contents are embedded in brown mud; and the relative ratio of *corinaria*, *herbivora*, &c., are very much the same as in existing nature—thus the depth of stalagmite in Kirkdale Cave corresponds with that of Scharzfeld, Bauhman's Höhle, Biel's Höhle, and Galenreuth, on the continent. Wherever geology has extended its range, these oolitic caverns are to be found, as in England, France, Belgium, Westphalia, Franconia, and Wurtemberg. They are distributed along the shores of the Mediterranean Sea, and exist in North America, Australia, and in Asia.

It should not be overlooked in this estimate, that the contents of bone caves find a striking counterpart in that of *diluvium*, with the *mastodon* superadded to the latter; by *diluvium*, I understand the era of the transport of gravel, and, perhaps, that of the denudation of valleys. It has been said, that the mammoth was, likely, contemporaneous with man—a recent admission, I believe, but strongly confirmatory of the testimony of the organic remains of man, as discovered in the caverns of Bize, Poudre, Jouvagnac, Liège, &c., considered as contemporaneous with the other organic wreck among which they have been found, mingled *pêle mêle*.

When these classes of evidence are viewed together in their aggregate, they seem, to my simple understanding, to constitute such a mass of cumulative proof, as to amount to demonstration. The universality and uniformity of each link of the chain of evidence, and its connection with each other by peculiar ties, stamp them as contemporaneous. I have considered the phenomena in the light of a generalisation, and as a grand whole, not doubting but local catastrophes have, since this great event in geology, supervened, and may have complicated the phenomena, and somewhat disturbed the continuity.

Conjoin with these monumental proofs, the traditions of all nations under heaven; the Shasters and Vedas of the East—the Sagas of Scandinavia—the Bards of the East—and the Scalds of the North—the legends of the Chinese, Hindoo, Mexican, Egyptian, Polynesian. Consult moreover, the annals of Greece and Rome, and I dare to ask, in the language of COVIER, "What but truth could have brought them together?"—and when I consider the numerous oolitic caverns, &c., I have explored—those of Montmartre, the Mendip Hills, &c., I may well exclaim—"Si monumenta loquar, circumspice!"—J. MURRAY: Portland-place, Hull, March 9.

#### THE ELECTRICAL RESEARCHES OF MR. BAGGS.

SIR,—I am certainly surprised at the purport of Mr. Baggs's communication, as recorded in your last Number. If he infers from anything I have said, that there is the slightest intention to detract, in any degree, from the merits of his researches, he has assuredly altogether misunderstood me. Your scientific correspondent surely fails to recognise the legitimate sense of the term *theory*. The highest authority for the definition is Lord Bacon, and Mr. Baggs cannot be otherwise than well acquainted with the *Novum Organon*. A theory must be founded on facts, and spring from them. *Systematised facts* is only another name for theory; the very term I used, then, presupposed the admission of a stated fact. Had I said *hypothesis*, there might have been reason for the too precipitate conclusion, that I had called in question, or doubted Mr. Cross's view of a thunder cloud; but I admitted it at once, *comme un fait accompli*, though, in doing this, I cannot forego my subscription to Liebig's logic, that even what we may esteem facts, have to do with present, rather than future, knowledge. I observe, Mr. Baggs, in explanation, states, that the laws of induction were understood as implied, though not expressed; I have, therefore, nothing more to say on that point.

I referred, of course, to Lichtenburg's experiments, which I had often repeated. Mr. Bennett had, however, infinitely surpassed in execution, as well as modified, these devices of the ingenious philosopher of Göttingen, which certainly, however, formed the principle, and supplied the nucleus for his experiments. I frankly confess I had never dreamed of any other view of the nature and character of the electric spark from the prime conductor of the electrical machine, and the discharge of the Leyden jar—namely, that what the latter was *en masse*, the spark was in detail; or, in other words, that the Leyden charge was an accumulation, or aggregation, of electric sparks. I had both taught and published these views, and took it for granted as generally admitted in modern times. From some modifications of Fassinieri's experiments, which I made and recorded, and were transmitted to M. Van Mons, of Brussels, at his request, through Sir David Brewster, conjoined with other phenomena, I had drawn my conclusions, and settled down into the belief, that there could be no doubt on the subject; besides, by the method already referred to, I have reduced the residual transfer to a mere spark.

As to Mr. Walker, all that I shall say of him is, that his practice is better than his hypothesis—if the lightning-conductor, erected on the Royal Exchange, is to be admitted in evidence; which, however, is, as far as it goes, a mere copy of mine—50 of which had been erected in various parts of the country, and have stood the test of twenty years!—being fully described in my work on *Lightning Conductors*, as well as in the *Journal of the London Electrical Society*, of which Mr. Walker was secretary. As to the eccentric electrician of Sandwich, I am not sure that I hold his opinions in very high estimation. If I remember right, he overtopped the lightning rod with the necks of broken bottles, and is chiefly remarkable for an abortive attempt to substantiate the fooleries of Mr. Crosse in the creation of insects, and thus endeavour to revive the exploded atheistical doctrine of spontaneous generation, or equivocal production. I will, moreover, frankly confess, that I think he might have employed his time to much better purpose than in hatching mites!—J. MURRAY: Portland-place, Hull, March 13.

#### IMPROVEMENTS IN THE MANUFACTURE OF BRICKS AND TILES.

SIR,—Permit me, through the medium of your columns, to offer a few remarks upon a lecture, delivered at the Western Scientific Institution, by Mr. Schmidt, and reported in your *Journal* of the 4th inst. Mr. Schmidt's lecture was upon improvements in the manufacture of bricks and tiles, in which he was pleased to remark, that up to the present time, many attempts have been made to introduce machinery into this important branch; but perfectly-shaped bricks have never been produced with any degree of certainty—in fact, hitherto all machines have been complete failures as to practical purposes—the mechanism being too delicate, or too complicated, for the coarse work it has to perform. Surely, Mr. Schmidt must be possessed of more penetration than usually falls to the lot of our poor mortals, to take such a wide field of observation on inventions—patented and otherwise—"since the days of Adam"—perceives to their very centre, see all their faults and failings, and sweep them away at one rude stroke—"like the baseless fabric of a vision, nor leave a wreck behind," save and excepting the infallible one he is interested in. "Indeed, Mr. Schmidt, you are too hard upon us, poor inventors!" In the sweeping vision Mr. Schmidt has taken of brick machinery, I am inclined to think he has passed by mine unobserved, though in his lecture he says *all* is included; but that he may be certain of the fact, I invite him just to run down to Leeds, when I will show him a brick-machine at work, which, I have no doubt, will surprise him, and lead him to exclaim to his present pet—"Get out, thou base-born braggart!" I have given much attention to the subject of brick-making by machinery for these last 15 years, and have succeeded in making a machine, which is fed with clay immediately when dug—grinds all the stones contained in that clay—thoroughly amalgamates all the particles—moulds the bricks—presses and delivers them at the rate of 16,000 to 20,000 per day. The machine is first fed with rough clay, just as dug, and delivers the very best-pressed front bricks. By the explanation Mr. Schmidt gives of M. Legros's machine, in his lecture, I beg to inform him, that it is impossible it can succeed for many reasons I could give him. I shall be glad to show any parties interested my machine at work, when they can judge for themselves.—JOHN LONGBOTTOM: Yentler-lane Works, Leeds, March 13.

#### SANATORY REFORM.

SIR,—In your *Journal* of March 11th, appears a rejoinder, from Mr. Wickstead, to the communication made by myself of February 28th, and the other made by "X. Z." of February 23d, on this very important subject, in which reply certain misconceptions exist—based either upon the usual sources of such errors, or upon the result of some editorial prunings to which my letter was subject. \* \* \* Mr. Wickstead's assumption, that my plan, or project, of a cloaca for the entire metropolis, would cost 4,000,000, sterling, is erroneous, as I only proposed to demand 1,000,000, which, when executed for one-fourth, or 25th, as an experiment, of the metropolis, would yield, in future, 370,000, per annum profit on its outgoings, and in present; and, after paying 10 per cent. to shareholders, would furnish capital to repay any debentures which the rapidity of the

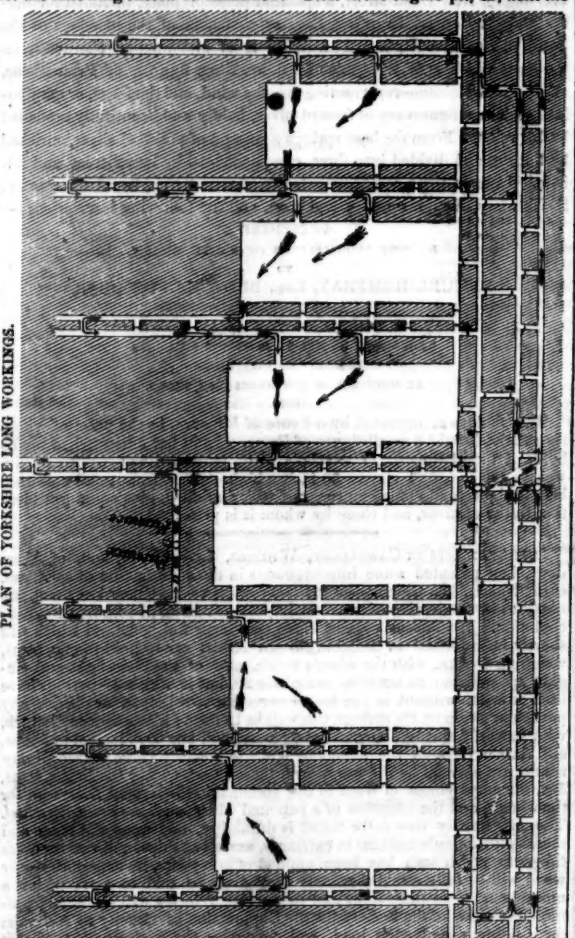
extended works might necessitate. As Mr. Wickstead is to my thinking one of "the eminent engineers," or, according to Excise phrase, "an expert," he must excuse the expression in which I denominated the eulogy of "X. Z.'s" one-sided notions, which all schemes may more or less be, that emanate from the brain or brains of one, or of a very limited sodality of mere wise-acres. I may be stigmatised as the author of "imperious and haughty dogmatism" for such expressions; but I really cannot help entertaining the idea, that the attempts now progressing of the sanitary commission from Lord Morpeth, down to the tailor of Conduit-street, of weaving a sanitary bill for the observance of all intelligences, is, to say the least of it, one-sided and puerile. Is a whole nation to be bound by the thoughts of six people—one of whom is a Schneider?

One thing more, and I have done. Your correspondent, of Feb. 19th, has quarrelled with his own intolerant sneers; and so far forgot himself as to realise for himself in my mind the adage of "the kettle and the pan;" nor would he have any need to express his contempt for me, "could he see himself as I see him;" and I can assure him that not only am I out of the atmosphere of his petulant intolerance, but so much his superior, as to be at least free from a legal fault, of which he, by the two-voiced trumpet of fame, is the continual perpetrator. Wm. RADLEY, Ch. E.

March 14.

#### COLLIERY OPERATIONS—YORKSHIRE LONG WORKING.

SIR,—It is well known, that the present plan of ventilating coal mines is censured and condemned by the mere theorist. One novice appears in the public press with one scheme, pretending to be an improved plan of ventilation, and a second with another, declaring it to be a still greater improvement. I am really weary of seeing so much absurdity in the public papers, but am sorry to say that it has been our own fault, in giving them the opportunity of condemning the right principle and plan, of the sad neglect of which many practical men are guilty. I defy the world, however, to produce a more efficient plan of ventilation than the present, were it carried out as it ought to be. It is Nature's own law; but on some account or other it is not fully carried out generally; in many instances, the plan adopted is a mere imitation of it. Perhaps, one reason why this efficient plan has not always been adopted and carried out, has been the low and ruinous prices for which coals have generally sold. That this simple plan of Nature's own may be more easily understood, let the following sketch be examined:—First is the engine-pit, A; next the



coal-drawing pit, B; and, thirdly, the upcast-shaft, or cupola, C, with two furnaces placed near to the bottom—A and B being downcast pits—A working with the funnel, D, and B with the funnel, E. Observe next, the double air-courses driven into the coal bed, and their being carried sufficiently far in advance of the bank, or main working—trap-doors being placed in all situations where necessary, as shown by the small cross lines, some of which are marked S, and all the stoppings being made of brick, and well bonded with mortar.

All the windward slits, leading into the main workings, are left open; and all the leeward slits, with the exception of that one in use, well closed. This mode of ventilation will safely work a coal-field 100 acres, or upwards, in extent; but let it be observed, that if 100 acres, or upwards, can be worked by the said artificial means, it does not follow, that the same power of attraction will safely work a mine to any extent; but if beyond these limits another downcast and upcast shaft are found necessary, let them at once be sunk, and set to work. This would be done at a less expense than by driving air-drifts above the coal bed, boring holes from the surface, sinking pits on the crown of the old goaf, or gobbin, or fixing metal pipes underground from the said goaf, or gobbin, to the upcast shaft (as has been recommended by the mere theorist), and with a great deal more efficiency; the theorist's schemes would be utterly useless.

I should be much obliged by any coal proprietor showing, or pointing out to me, a coal mine which could not be worked with the greatest safety upon the principle and plan here laid down, and that, too, with the naked candle. Should any gentleman feel disposed to object to this practical plan of ventilation, which I support as being the most simple, easy, and the best that can be practised, by referring to the many explosions that had taken place under it, I am prepared to prove, that the fault has not been in the principle, but from want of its being properly carried out by the managers of those mines where the explosions have taken place.

Gamber Colliery, Barnsley, March 2.

J. C. SUTCLIFFE.

#### THE HYDRAULIC TELEGRAPH.

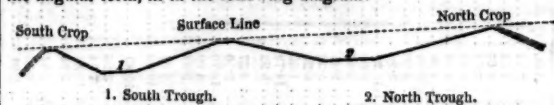
RESPECTED FRIEND,—A curious fact connected with new discoveries is, that whatever obstacles have been encountered in their adoption, they have been generally of a different nature to those which had been anticipated, when originally brought to light. The locomotive and atmospheric railway are cases in point; with the former it was objected, that the wheels would whirl in the air, instead of propelling the train; and with the latter it was stated by several engineers, that it would be impossible to stop the trains between the stations—while the great difficulty has been hitherto not to stop the train, but, owing to a defective valve, to propel it. The objections brought against the hydraulic telegraph, are, in all probability, doomed to rank with the above. Those objections prove simply that there is room for improvements in the detail of the apparatus—in fact, it can hardly be called a question of principle, but of length; and if, as "An Inventor" says, it will work well with a tube 10 miles in length, we shall soon see the invention sufficiently perfected to permit its adoption from one end of the country to the other. The most plausible objection which has

been brought against it, is the weight of the column of water in the tube, should one station be several hundred feet higher than the other; but the inconvenience can be easily obviated by means of self-acting valves. Nature herself provides for this in the human body; it is well known that there is a number of valves in the arteries, which prevent the weight of the column of blood interfering with the circulation; when these valves are injured by accident, they produce a sinusity well known to medical men as *varicose veins*. I have drawn a sketch of a valve which would support the weight of the water, and yet would not interfere with the working of the telegraph; but it cannot be correctly explained without a wood-cut. It consists of a metal ball, placed in the tube, and connected with a piston placed in a short tube, double the diameter of the long tube; the weight of the column of water would keep the valve closed; but, on increasing the weight by pressing the piston of the telegraph, the valve would open by the depression of the piston placed in the larger tube; a spring fastened to this piston would cause it to rise, as soon as the pressure on the telegraph piston would be removed, and, consequently, close the valve—so that the valve would open only while the telegraph piston would be pressed down, by causing a hydrostatic pressure on the piston in the larger tube. It is to be hoped that the capabilities of this invention will be fully tested; and as the tubes could be laid on the ordinary roads at a cost little exceeding that of the posts which support the telegraphic wires, a great number might be laid down between large towns, which would tend to bring this mode of communication into universal use. JOHN DE LA HAYE.

Liverpool, 3d mo. 15th.

#### THE MINERAL BASIN OF SOUTH WALES.

An interesting treatise on the coal and ironstone field of South Wales, has just been published by Mr. Frederick Moses, mineral surveyor, of Neath, dedicated to landed proprietors, ironmasters, and others interested. He has treated it in a manner which shows him to have well considered the peculiar locality, the dip, various faults, &c. Geologists have always represented this mass of mineral wealth as divided into two elongated curvilinear troughs, with a ridge between, known as the antichinal axis, understood by miners as the saddle-back; the author dissents from this opinion, and, during his experience, he has always found it more approximating the angular form, as in the following diagram:—



He then proceeds to describe the various strata and coal and iron measures, extending from Pontypool on the east, passing through Risca and Pentrych on the Taff, north of Bridgend and Pyle, passing under the waters of Swansea Bay, appearing again between Swansea and the Mumbles, crossing the peninsula of Gower to St. Bride's Bay; here it turns to the north through the Gwendraeth Valley, Sirhowy, Nantyglo, on to Pontypool. It is estimated at 700,000 acres in area, with a thickness of coal of 95 ft., and ironstone 18 ft. A cubic yard of coal is estimated to weigh a ton, and a cubic yard of ironstone about 35 cwt. The old red sandstone is deemed the base of this grand superstructure, and varies much in appearance, and contains the remains of fishes and fossils. The next in the ascending scale is the carboniferous, or mountain, limestone, used in the smelting of iron, of which 1 ton is used to make a ton of iron; it is of a compact structure, varying from bluish-black to a light grey colour, and fossil marine animals are lavishly imbedded in it. Above this is the millstone grit, or plum-pudding stone, composed of quartz, pebbles, &c., of various colours, and the lower part agglutinated by a calcareous argillaceous deposit; above this, again, is the farewell rock, and on which repose the whole series of the coal measures, consisting of the lower, or ironstone, the Pennant, and the red ash measures. He then describes the Dudley coal-field, the Appalachian in North America, the Edinburgh, and the Duhallo, in Ireland, showing the nature of their several faults. In a description of the passage of bituminous coal into anthracite, he says:—"The change from bituminous to anthracite was caused from immense pressure acting from above, underneath, and laterally, at one and the same time; this must, of necessity, have given rise to friction, which in its turn set the internal elements—probably electricity—in operation on the mass, forcing the bitumen or volatile matter in a state of gas through its pores, overcoming every resisting opponent in its course. Indeed, the greater the resistance, the more fierce became the agent, which increased in proportion to the accumulation of pressure and friction, leaving only behind it the traces of a once primeval bituminous existence in the tarry lustrous of the anthracite. It is also known that in every fault, and on nearly every crop of coal and ironstone in the basin, there is found, what miners term, burnt ground, showing an appearance of having been subjected to the all but spent influence of some powerful internal element, and, as we proceed upwards, the coal becomes more bituminous—thus showing that it had been deprived of its bitumen, in proportion to the pressure exerted on it." The pamphlet forms an interesting geological essay.

#### ORIGIN OF COAL.

We have recently received a pamphlet, entitled "A New Geology, particularly at the Era of the Coal Formation," in which the writer, who signs himself, "Carbonicus," takes a novel view of the theory of creation, and the formation of coal—how far, with a probability of truth, we leave our readers to determine, from a perusal of some extracts. After noticing the difference of opinion which exists, as to whether coal consists of land plants carried down by rivers into estuaries of the sea, or whether it is the altered residuum of plants which grew on the spot, he proceeds to give his opinion, "that the atoms of which the granite is composed were once in a state of fusion—and that when solidified, they became the crystalline amorphous rock granite, as the base of all the others; that the other strata were afterwards deposited layer upon layer, from the mica schist to the chalk, sands, and gravels, according to locality; that previous, however, to this, one wide waste of waters swamped the earth; and that to earthquakes beneath may be attributed the present existence of mountains, seas, and valleys—redeemed the coal beds from their watery graves, and saved the earth its fossils and its minerals. That the earliest families of plants and forests successively were charred by fire upon the soil whereon they grew and stood, whether by flames from beneath, by electric sparks from the clouds, or by spontaneous combustion—thus, and thus alone, were the first forests, jungles, and vast floral plains, embalmed by flames, and sepulchred in stone by clouds of argillaceous dust, silicious sands, calcareous grains, and metallic ores; the origin of coal is, without doubt, the carbon of the floral scene, and all the different qualities—jet, common, cannel, and anthracite, are from the forest tribe, according to the varying flora of the different soils. The charcoal laid in its fossil bed, compressed the fibrous embers in a mass, and have preserved the various qualities in its descent. By these conforming means, the coals were saved successively, and roofed with stony plains, whose aggregates are mountains; beds of true carbon are revealed in scores, and various rocks in countless multitudes; the fossil tombs are many miles in depth, and thousands in extent." There is a vast deal in this pamphlet which is really too abstruse for our understanding—the language is so high-flown, so thoroughly aerial, that it is too much for our mundane matter of fact temperament; but to say that common, or bituminous, coal has undergone the process of charring, is in opposition to all chemical experience. What would have become of the sulphuretted and carburetted hydrogen, the tar, ammonia, &c., which it contains so plentifully?—and it is well known, if vegetable matter is charred, it leaves behind nearly only the pure carbon. We cannot help feeling that the science of geology, as at present understood by our lecturers on the subject, is far nearer the truth than anything "Carbonicus" has advanced—and that his ideas on the coal formation are truly chimerical; and, as we said before, the pamphlet is written in such a style of bombast as to be thoroughly impossible to be understood. We give the following specimen from his account of the formation of coal:—"The forests in wide areas spread through periods, grew excessively, from causes then inherent, most immense, and for effects in ages now arrived, exhaustless as the seasons. Fields, like the face of many seas, produced more carbon in a single season than swarthy jungles at the tropics can in centuries; in a hot bed of youth, and air washed by the tepid dews, herb, plant, and grasses rivalled mountain pines, and humble shrubs excelled the cedars of our crippled age; every species in congenial climates, as pillars propped the clouds, and forests rose like Nature's pyramids, or mountains overgrown—thus every race gigantic sweltered with excess, and plethoric, with such a load of life, fell suddenly to fill appointed graves." Truly, this is fine writing with a vengeance!



# IMPROVEMENTS IN TRUSSING BEAMS AND GIRDERS.

[Specification of patent, dated Sept. 2, 1847, granted to William Gibbons, of Corring's Hall, Worcester, for certain improvements in trussing beams and girders.]

This invention consists—first, in the application of bow-springs in conjunction with the tie-rods hitherto employed in trussed beams and girders; and, second, in the forming of cast-iron beams and girders, with grooves or channels on their sides, in which is to be inserted the said tie-rods, such rods being intended for the purpose of supporting such beams or girders in the event of their becoming fractured; and the intention of the springs, in conjunction with the tie-rods, is to impart an upward pressure to beams or girders, by virtue of the elasticity of such springs, the pressure of which may be adjusted by the means hereafter described; and the patentee, in applying such springs to beams or girders, which are formed of one piece of metal or wood, arranges or disposes such springs at about the centre and under-side thereof; and, in applying them to compound beams or girders, which are formed of two or more parts, he arranges or disposes these springs at the points of junction of each of the main parts employed to compose the said beam or girder, which, according to their size, may be of any number—the springs, in all cases, being placed or disposed immediately at such points of junction, as before stated; the intention of such springs being, doubtless, to afford additional elasticity to beams or girders, independent of that of the materials of which they are composed. This mode of trussing beams and girders, as far as theory is concerned, appears to have much plausibility; but, as far as practical experience will allow a judgment to be formed, it seems extremely dubious whether there will be much, if any, benefit derivable therefrom; and for this simple reason, that, in order for a beam or girder to support a given weight, it is necessary that it should be of such dimensions that any occasional excess of pressure would not destroy its elasticity. Such being the case, we really cannot see to what extent, practically, the application of an inconsiderable number of springs thereto could be of use to return any beam or girder to its original position when once its own elasticity has been destroyed by any excess of pressure thereon. As regards the construction of metal beams and girders, with grooves or channels, in conjunction with tie-rods, there is no doubt it will afford great security, as, in the event of a fracture taking place, the weight will still be supported by the tie-rods. The patentee claims—first, the application to trussed beams and girders of one or more bow-springs, in conjunction with the rods, as described, set forth, and represented; and, second, the forming of metal beams or girders, with grooves or channels on their sides, as described and represented.

Patent-office and Designs Registry, 210, Strand, March 14.

# IMPROVEMENTS IN THE MANUFACTURE OF METALS FROM THEIR ORES.

[Patent dated September 9, 1847. Specification enrolled March 9, 1847.]

The improvements which form the subject of this patent have been communicated to Mr. J. C. Robertson from abroad, and patented by him on behalf of the inventor, whose description we shall now lay before our readers. It may be proper to premise, that electricity has been before applied, by Mr. Wall and others, to the extraction of metals from their ores; but not at the stage, nor in the way, here proposed.

It is well known that the ores of iron, lead, zinc, copper, tin, silver, antimony, bismuth, cobalt, and of most other metals, exist naturally as ores, in a state of combination with more or less of sulphur, phosphorus, arsenic, and other volatile matters, from which it is important that they should be freed before being subjected to the smelting or reducing process. For this purpose, they are usually roasted in heaps in the open air, or on the hearth of a reverberatory or other furnace, with exposure to the atmosphere—it being requisite, in order to the volatilisation of the matters which it is sought to get rid of, that the air should have access to the burning mass. But this roasting process is always tedious, and often so defective, that the ore, being but very partially freed from the sulphur, phosphorus, and other volatile matters aforesaid, yields, when smelted, only a crude metal, possessed of neither the due malleability, nor the proper lustre. Now, the invention communicated to me, as aforesaid, consists in the subjecting of the said ores to the joint action of heat and electricity, in manner following:—I have ascertained that when sulphurets, phosphurets, and arseniurets are under the influence of a high temperature, and have currents of electricity then transmitted through them, the sulphur, phosphorus, and arsenic, being naturally electro-negative, are powerfully attracted to the electro-positive pole of a voltaic battery, and have also their usual chemical affinities for metallic bases thereby impaired or subverted, so as to yield more readily to the volatilising influence of the heat, and pass off in the state of fumes or vapour. The mode of carrying this invention into practical operation may be varied according to local circumstances; but the following description and directions will enable any practical metallurgist to execute and apply it readily on any working scale.

A furnace or kiln may be employed of the form and construction of the ordinary lime-kiln, and with a surrounding dome. It is made somewhat of a pear, conical, or egg shape, and lined with well-burnt bricks, made of fire-clay, and as free as may be from ferruginous matter, or with semi-vitrified bricks made by a due admixture of lime with clay and silica, in order that the lining may consist of materials which are to a great degree non-conductors of voltaic electricity, or at least bad conductors thereof. The grate-bars may rest loosely on cross bearings of iron, so that they may be easily shifted or replaced, as required. There may be an iron or fire-tile door at one side, a little above the level of the grate, for withdrawing the calcined ores. From the top or side of the dome a wide chimney proceeds, through which the vapours arising from the furnace either pass off into the open air or into some approved condensing apparatus. The mode of operating with the furnace is as follows:—

The grate-bars are first covered with a layer of fuel (preferably good coke or anthracite, when it can be procured, to bituminous raw coal, over which a layer of the ore (previously broken into small pieces, and sorted as usual) is laid; a second layer of fuel is then laid above the layer of ore, and over that a second layer of fuel is laid; and so the operation of filling proceeds, the ore and fuel being piled up in alternate layers till the cavity of the furnace is filled. On the middle of the topmost layer an iron ring or cross should be laid. The undermost layer of fuel being kindled, it sets fire progressively to all the superjacent layers, and the roasting process begins.

As soon as any considerable portion of the mass has become moderately ignited, a communication is established between the iron ring or cross and a voltaic battery, or other equivalent electrical apparatus, by attaching to either of them a wire carried from the negative or positive pole of the said battery; while from the iron bearer of the grate-bars a wire is carried to the opposite pole of the battery, so as to establish the electrical circuit and current through the mass of calcining materials. The electrical power should be proportional to the mass of materials operated on, and the action kept up until it is seen that the sulphur, phosphorus, or arsenic, as the case may be, have been discharged, as evinced by the ceasing of the fumes. The battery should be one of the sustaining kind, or such that the current of electricity thus established through the mass should be steadily and well kept up. From the ring or cross of iron on the surface of the roasting materials, one, two, or more iron rods may be carried downward, either vertically or obliquely, into the contents of the kiln, through a greater or less extent, for favouring the conveyance and distribution of the electricity.

The degree of strength with which the electric current acts, will be evidenced by the escape from the top of the furnace, in more or less abundance in the form of fumes, of the sulphurous or other matters desired to be got rid of. The activity and power of the electrical current should be tested from time to time by transmitting it through a little acid and water in the test glass tube apparatus, well known to electricians, and described in most of the modern treatises on voltaic electricity. The lowest and best calcined portions of the mass are to be drawn off from time to time, either by the side doors of the furnace or from the grate itself, by removing two or three of the moveable bars, after the manner commonly adopted in the draw lime-kiln.

In proportion as the furnace is emptied at bottom, it must be replenished from the top with alternate layers of fuel and ore, as aforesaid, in order to maintain the mass always at the same level as nearly as may be; on which occasions the iron ring or cross may be removed during the time of feeding, and immediately afterwards replaced. The voltaic circuit should be also meanwhile interrupted. The ore, after it has gone through this roasting and electrifying process, is to be washed and reduced, either in retorts, by cementation or in a blast-furnace, according to the modes in ordinary use. —*Mechanics' Mag.*

**PETITION AGAINST THE PRESENT PATENT LAW SYSTEM.**—The enormous and shameful abuses that at present exist in the British patent laws—abuses that stand as an insurmountable barrier between the ingenious, but needy inventor, and that reward which the statutes of reason and conscience, and the laws of the country, have awarded as justly his due—we are glad to find are about to be attacked with boldness and intelligence; our correspondent, Mr. Campin, of the Patent-office, 210, Strand, whose views upon the subject of amendment of the patent laws have appeared in former Numbers of our Journal, being occupied in getting up petitions to the Legislature, praying for reform. As far as we have been enabled to advocate the rights of inventors, we have always felt a peculiar gratification in doing so with the utmost energy and spirit; and we now think it right to direct the attention of our readers to such a manifesto as that just spoken of, in order that such a praiseworthy effort should not fail for lack of the support of inventors themselves, at least, as far as we can contribute to that object.

# THE NAVAL POWER OF ENGLAND.

The following is a complete summary of her Majesty's Navy, with lists of all the maritime companies employed by the Government to carry mails, and their number of vessels—their horse-power, tonnage, and number of men, taken on the 12th of February last:—

	No.	Guns.	Men.	Tons.	Horse-power.
Sailing ships	161	3661	31,249	147,066	20,840
Steam-ditto	93	391	7,740	86,853	20,840
Total	254	4052	39,008	233,919	41,680

There are also, in the revenue service, 66 sailing vessels, 123 guns, 1180 men, and 4905 tons; and one steam-ship, the *Yubee*, 2 guns, 37 men, 325 tons, and 180-horse power—making a total of 67 ships, 134 men, 5330 tons, and 180-horse power; in addition, the coast guard consists of 4200—making the number of the coast guard force nearly 5400, and would be a most available body for general purposes, were they under the control of the Admiralty, instead of the Customs.

## PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY.

This company has 23 steam-vessels, of 31,546 tons, 7955-horse power, and 1327 men; with them the Admiralty have three contracts—1. For carrying the mails monthly between England, Gibraltar, Malta, and Alexandria, contracting to carry four guns, 61 to fire, of the largest in the navy, for 29,500*l.* per annum; and, by another agreement, to carry a mail between Southampton and Malta, in vessels of 280-horse power; and Malta and Alexandria, 180-horse power, for 15,500*l.* per annum, or 4*l.* 6*d.* per mile.—2. To carry the mails between the East Indies and China, once a month, at 160,000*l.* per annum—providing three steamers, of not less than 600-horse power each, and one not less than 250-horse power; two steamers, not less than 400-horse power each, and one not less than 250-horse power for China.—3. To convey the mails between England, Vigo, Lisbon, Oporto, and Gibraltar—five, or more, not less than 140-horse power—for 20,500*l.* per annum—less 3500*l.*, if port charges in Spain and Portugal are remitted.

## ROYAL MAIL STEAM-PACKET COMPANY.

This company has 14 vessels, 16,069 tons, 5437-horse power, and 1127 men; and two sailing vessels, 238 tons, and 30 men. They contract with the Government to carry the mails between England, the West Indies, and the Gulf of Mexico, twice a month, from Southampton, for 240,000*l.* per annum, finding 14 steamers, 10 of 400-horse power, and the remaining four for the colonies, only 250-horse power.

## BRITISH NORTH AMERICAN MAIL COMPANY.

This company possesses 10 ships, 13,875 tons, 5242-horse power, and 875 men; they contract to carry the mails between Liverpool, Halifax, and Boston, and Liverpool and New York; they have 145,000*l.* per annum, employing nine vessels, of 400-horse power, and one spare steamer, of 100-horse power.

## CITY OF DUBLIN STEAM-PACKET COMPANY.

Has 7 ships, of 3660 tons, 1673-horse power, and 180 men—convey the mails between Liverpool and Kingston, daily, for 9000*l.* per annum.

## GENERAL STEAM NAVIGATION COMPANY.

To convey the mails from London to Hamburg and Rotterdam, twice a week, contracts with the Post-office for 17,000*l.* per annum; they have 14 vessels—7868 tons, 2628-horse power, and 314 men.

## MONA LEE STEAM-PACKET COMPANY.

Contracts with the Post-office for conveying the mails between Liverpool and the Isle of Man, twice a week, for 800*l.* per annum; they have four vessels, 1568 tons, 664-horse power, and 45 men.

## SOUTH-WESTERN STEAM-PACKET COMPANY.

Has 5 vessels, 1239 tons, 436-horse power, and 103 men; they contract with the Admiralty to convey mails between Southampton and the Channel Islands, three times a week, at 2000*l.*, employing three or more steamers of not less than 80-horse power.

## PACIFIC STEAM NAVIGATION COMPANY.

Employs 4 vessels, 2384 tons, 740-horse power, 184 men—contract to convey the mails to Panama, once a month, for 20,000*l.* per annum.

## HALIFAX AND NEWFOUNDLAND.

Mr. Whitney, of St. John's, New Brunswick, contracts to convey mails, twice a month, from April to November, and once during the four winter months, in one steam-vessel, of 100-horse power; for 4150*l.* per annum.

## Summary of Steam-Vessels.

Company.	No.	Men.	Tons.	Horse-power.
Peninsular and Oriental	23	1320	24,646	7955
Royal Mail	14	1127	16,069	5437
British North America	10	875	13,875	5242
General Steam	14	314	7,868	2628
City of Dublin	7	180	3,660	1673
Mona Lee	4	45	1,568	664
South-Western	5	103	1,239	436
Pacific	4	184	2,384	740
Halifax, &c.	1	30	489	360
Totals	82	4148	61,798	25,364

In addition to the above, the following sailing vessels are engaged in the contract mail packet service:—

## SAILING VESSELS.

The Aberdeen and Leith Company contract for conveying the mails, weekly, between Aberdeen and Berwick, for 9000*l.* per annum, in a sailing vessel, of not less than 140 tons, from October to March inclusive.—*The William Hopkirk*, 140 tons.

Mr. Friend, of Alexandria, contracts to convey the mails, monthly, between Alexandria and Beyrout, for 1300*l.* per month, in a sailing vessel, from 120 to 150 tons.—*The Enthele*.

Mr. S. Cusack contracts to convey the mails twice a month in summer, and once a month in winter, in sailing vessels (four or more), not less than 100 tons, for 4690*l.* per annum, terminable six months' notice, between Halifax and Bermuda.—*The Economy*, *Lady Cole*, *Maypole*, and *Venocity*, above 100 tons each, with crews of 10 men.

Messrs. Toulmin, of Great St. Helen's, contract to convey the mails between England and Sydney, New South Wales, once a month from England, and 12 annual departures from Sydney, in sailing vessels of not less than 250 tons, for 100*l.* per voyage out, and 180*l.* per voyage home; no two vessels to sail from Sydney at a greater interval than six weeks.—13 vessels, 319 men, 6514 tons.

## Summary of Sailing Vessels.

Company.	No.	Men.	Tons.
Royal Mail	2	30	288
Aberdeen and Leith	1	10	140
Alexandria and Beyrout	1	10	150
Halifax and Bermuda	4	40	400
Sydney	13	319	6514
Totals	21	408	7492

Taking the steamers employed in the contract packet service into account with the sailing vessels, we find the grand total to be the following:—

	No.	Men.	Tons.	Horse-power.
Steamers	82	4148	61,798	25,364
Sailing Vessels	21	408	7,492	—
Totals	103	4556	69,290	25,364

# IMPROVEMENTS IN THE FUNNELS OF THAMES STEAMERS.

Our attention has been drawn to an important improvement in the mode adopted for allowing the upper half of the vessel's funnels to descend, so as to enable the boat to pass the several bridges. In the funnels hitherto constructed, the joint of the two portions has been merely a simple hinge, which, in a comparatively short period, from oxidation, action of smoke, heat, &c., become corroded and weakened, and at length give way—the upper portion falling on the deck, to the imminent danger of the passengers, and the nuisance from the smoke for the remainder of the journey. An accident of this kind occurred some short time since to one of the boats of the Waterman's Company, when several persons were severely injured.—One female to such an extent as to demand considerable compensation. This circumstance occasioned Mr. Green, the foreman and manager of the steam-engine department of the company's works at Woolwich, to consider if some plan could not be adopted to prevent the recurrence of such a serious accident; and he suggested the following simple plan, which is now in use on No. 12 of the company's boats, and is in every way efficacious:—The funnel is divided into two parts, united by a hinge, supported by a balance-bob, in the usual manner; but there is, in addition, a semi-circular safety arm, or crook, riveted at one end to the lower portion of the funnel, just below, and in the centre of, the hinge—the other end just enters a hole in the upper, or swinging portion. On this safety arm there slides a crutch, formed to the same radius as the chimney, to receive it in its descent, and which can be fastened to any height required. On the attendant raising the lever, the funnel is steadily guided in its descent by means of its passing over the arm; and, should the hinge be completely broken off, the funnel safely lodges on the crutch. It can be applied to any kind of funnel at a mere trifling expense.

**CONWAY TUBULAR BRIDGE.**—We have the gratification to announce that this stupendous structure, after several unsuccessful attempts made during the last week, is at length safely lodged in its proper position on the lower piers of masonry—and is now most admirably adjusted for the attachment of the chains, by which it will be lifted into its permanent resting-place. The tube was again floated by means of the pontoons, at high water on Saturday last, in the presence of Mr. Stephenson, Mr. Fairbairn, Capt. Claxton, and the other engineers and nautical gentlemen who have throughout directed the operations. Both Mr. Stephenson and Mr. Fairbairn have been incessantly occupied at Conway since the commencement of the operations; and we may safely congratulate both those gentlemen, and the profession generally, on this successful accomplishment of the greatest engineering triumph ever attempted. It is expected that the line of railway will be opened from Chester to Bangor in the course of the ensuing month.

**DESTRUCTION OF THE VIADUCT OVER THE RIVER NIDD, AT KNABESBOROUGH.**—On Saturday morning, about half-past 11, the entire viaduct, which was high being completed, fell in with a tremendous crash. It consisted of four arches (the centres of which had not been removed), each 50 ft. span and 80 ft. high. The cause of so great a catastrophe remains a mystery yet to be explained, but it is thought it has arisen in a great measure through the heavy rains which have prevailed for the last two months—fortunately no lives were lost. It was intended for the use of the Leeds and Thirsk, York and North Midland, and East and West Yorkshire Junction Railways.

# EMIGRATION TO NORTH AMERICA—PROGRESS OF MINERAL PRODUCTION.

The colonisation of the vast territories of North America has ever been a subject of romantic interest, since Penn first laid the foundation for the introduction and diffusion of European civilisation over that extensive, fertile, and beautifully picturesque portion of the globe. Rapid as has been the progress in population and the arts of life, the former in the whole of the states probably does not exceed 22,000,000, or less than that of the British Isles; and it may well be supposed there is, even in the old states, millions upon millions of acres of land of the richest quality, suitable to various agricultural pursuits, to be had by the enterprising emigrant, to say nothing of the wide extent of forest, and savannah, extending to the shores of the Pacific, on which the foot of the white man has never trod. There is here room for countless millions of the human race to obtain, by industry and perseverance, all the comforts and the luxuries of life; and, in comparatively a few years, that independence and station in society, which not one in one thousand can, in a life of toil, obtain in the old countries of Europe, crowded with population.

We are led to these remarks by the perusal of a pamphlet, on the *Formation of a British and American Land and Emigration Company*, by D. Hoffman, Esq., an American barrister of 30 years' standing. This little work of 36 pages, gives more information on the subject of American land, and trans-Atlantic emigration, than many a publication of ten times its pretensions; and every individual who has an idea of leaving England, to settle elsewhere, should make himself thoroughly acquainted with its contents. We will not, however, anticipate the pleasure of a perusal; but proceed to give a few extracts from the work:—

"The emigration from this country to the United States, during the past year, exceeded one hundred thousand souls, and seems destined to go greatly beyond that number annually. Doubtless, a considerable portion of those emigrants took with them some means; and, if not, the emerging influences all around them, in that new country, are such that the means of purchasing a small quantity of cheap lands will soon be theirs; but still, if emigration (in the new condition of things here) be desirable—as it surely is, has been, and is likely to continue—policy, as well as humanity, demands that something be done towards regulating that emigration, thereby to meliorate its usual severities, and actually to convert a probable misery into an actual blessing—a source of expansive happiness to the emigrant, and of large profit withal to those who will earnestly engage in the enterprise, by embarking their capital (as it is truly believed without any risk), and with the superadded advantage of a great eventual benefit to persons of very small means, and for those also who may be utterly destitute of means."

He then proceeds to show the value of land, the perfection of the title, and the certainty of its increase in value yearly as cultivation proceeds. Excellent land may be purchased of the Government at \$1½ per acre; and very often of individuals who, from various reasons, are anxious to get rid of it, at 50 cents per acre, or even less. He then states, that a great mistake exists as to climate in Virginia, the Carolinas, and Georgia; and that, although the eastern parts and low lands are, perhaps, not the most healthy, the western, and all the hilly localities, present one of the finest and most healthy climates in the world.

"If a company be properly organised, and waste no time in inaction, but commence at once with their small plantations, with ascertaining their emigrants, with having the assiduous and constant attention of intelligent agents, reasonably, but never expensively compensated, the few millions of acres, obtained at moderate prices, must yield a large increase, and very far beyond investments in anything else; and if procured in only small parcels of from 3000 to 5000 acres, or yet much less, the gradual progress would continually inspire more confidence, and yield various means for the most profitable amplification—for, in some cases, a small particular portion has been known to turn out of astonishing value, as will be more particularly specified hereafter."

He alludes to the vast increase of population, and observes:—

"If we glance at the last 20 years, we shall find her tonnage, in 1827, 1,620,000 tons, but enlarged, in 1847, to 2,840,000 tons. Exports, in 1827, were 582,000,000*l.*; and, in 1847, 518,000,000*l.* Coffee consumed, in 1827, 28,000,000*l.*; but, in 1847, 150,000,000*l.* Tea consumed, in 1827, 8,000,000*l.*; but, in 1847, 14,000,000*l.* Looking, again, to population, we find that of New York city, in 1827, was about 170,000; but, in 1847, was about 500,000. The city of Boston, in Massachusetts, contained, in 1830, about 44,000; but, in 1847, 128,000 inhabitants—an increase of nearly three to one in about 17 years."

"I will now briefly mention some of the undoubted results in a few of the states. The coal and iron mines of Pennsylvania, Virginia, and Maryland, are fast becoming, and in part have become, a national treasury in each of those states, and also a source of great wealth to many individuals. In the state of Pennsylvania, the coal and iron regions, either of anthracite, or of bituminous coal, extend throughout, and cover a considerable portion of that extensive state. The largest quantities of those minerals come from the vicinities of Pottsville, Pittsburg, Lehigh, Schuylkill, Lackawanna, Wyoming, Swatara, Shamokin, Wilkesbarre, Manch-Chunk; and very many others are now opening, or are but recently opened—such as Sunbury, Danville, &c., all of which cover portions of more than 14 counties, wholly within the range of the coal and iron fields, and embrace an area of about 21,000 square miles, or nearly 14,000,000 acres. Besides these, there are nine counties which are, more or less, within the compass of the coal and iron ranges, and all of these mineral sources are, comparatively, of very recent origin, springing up from the smallest beginnings, but soon afterwards moving on with giant strides, until now they are becoming a wonder, and yet most of them are now but only in their infancy."

"Pennsylvania produced, in 1842, only 189,000 tons of iron; but, in five years thereafter (1847), it had increased in that state to the enormous quantity of 368,000 tons—valued at \$28,920,400, or about 4,000,000*l.* sterling. Here, then, in the short period of five years, and with the misery of heretofore unmanageable rates of coal and iron, that state was more than doubled, and now exceeds that of England and Wales, in 1847, by 110,000 tons. This iron product of Pennsylvania is from 316 furnaces; and in the single town of Pittsburg, in that state, there are now 25 foundries and 11 rolling-mills, which annually consume 70,000 tons of iron; and the coal trade, from almost nothing a few years ago, has gone beyond 5,000,000 of tons annually, adding to the riches of the state more than \$20,000,000, or about 4,000,000*l.* sterling—so that these two articles alone, coal and iron, annually yield at least \$44,000,000, or about \$8,000,000*l.* sterling. In certain localities of that state, the increase of the coal trade has been so rapid as to appear almost magical. It commenced in 1812, in a then nameless place, now called Contoconche, and with only nine waggons of coal, at that time a total failure; but in 1847 that same place gave forth 1,600,000 tons, worth \$6,800,000, or about 1,360,000*l.* sterling. When George Shoenaker, in 1812, loaded his nine waggons at the then nameless place, a colonel, he was called an impostor—no one had faith; but much preaching was attended, and that, as is ever the case with truth, some began to believe, and with the supply of coal, and then the work was sure to be onward. Next came the Lehigh coal mines, in 1820, which commenced with only 265 tons—it now borders on 700,000 tons. In another locality, the increase was from 365 tons in the first year, or one ton a day, on the average, to 2,077,360 per annum, or \$700 tons per day; and a single company sent from its mines, in 1847, 400,000 tons, which company was scarce in existence at the time when the pecuniary difficulties of Pennsylvania commenced."

After referring statistically to several of the more recently established states, the rapidity of their rise, and the vast opportunities for the realisation of wealth in them, and the further western states, he concludes with a synopsis of a form of regulation for the establishing of a British and American Land and Emigration Company.

**NEW AERONAUTIC SHIP.**—A letter from Rotterdam, dated 7th inst., states that M. F. L. de Ruijter has invented an aeronautic, a machine which is far preferable to that of M. Montgomer, of Madrid; as M. Ruijter's construction, instead of requiring the power of the balloon, rises into the air from the impulse of its own working, with a weight of 200,000 Netherlands lbs., with immense rapidity, and can be steered at will. M. de Ruijter will soon exhibit some experiments with a small model, 1 ell 5 in. in breadth, 83 ells 14 in. long.

**BASINGSTOCKE AND SALESBURY RAILWAY.**—The works on this line are progressing near Salisbury. A bridge is being built near the London road, and a considerable length of embankment has been completed. At the tunnel a new shaft has been sunk, and workmen have commenced boring for the permanent way.—*People's Herald.*

**THE SOUTH YORKSHIRE COAL RAILWAY.**—The construction of this line of railway, under the direction of Mr. Bartolomew, engineer to the River Don Company, has been commenced at Levitt Hagg, near Cambourne, where there will be a very deep cutting in the solid rock. The portion of the line from Swinton to Doncaster will be first proceeded with and completed, but is now expected to be finished within the present year.—*Sheffield Iris.*

**GEOLOGICAL CURIOSITIES.**—A correspondent writes to us:—"It may be interesting to your geological readers to know that the Oxford, Worcester, and Wolverhampton Railway cutting in Dudley now presents a valuable section of the coal measures lying on the Silurian beds—namely, from the north and of the tunnel to the Birmingham road. At the south end of the tunnel, near the gas-works, the fire-clay and superior coal crop up to the basalt; the point of contact being in the tunnel, and therefore, not very come-at-able. At the Fire Holes, however, on the Himley-road, is a well exposed section of the basalt—massive, columnar, and globular (*basalts en boules*), with coal measures abutting.—Men. There wants a little volcanic action in the Dudley and Midland Geological Society; it seems inclined to bed itself among the ancient formations.—*Wolverhampton Chronicle.*

**GEOLOGY—RECENT DISCOVERY.**—The workmen employed at the work at Carcary, in the parish of Farnell, lately came upon a deposit of fossil shells, imbedded in the clay, at a depth of 20 feet from the surface, and not less than 60 or 70 feet above the present level of the Southsea. The clay is of the most compact kind, and alternates every foot or two with thin layers of run sand, in which shells, we believe, are not uncommon. The whole of the specimens, which are apparently of the genus *Anguilla*, were removed without injury, and are now in the possession of Mr. Lyall, of Carcary. One of them that we have seen measures 3 ft. 2 in. in length, and appears to be of the species *A. acutirostris* of Yarell. As the whole are to be submitted to the inspection of Professor Lyell, the celebrated geologist, we hope to be able, by-and-by, to give our readers a more scientific description of these interesting remains of past generations.—*Montrose Standard.*

**GUTTA PERCHA.**—The importations of this article continue to take place in large quantities. A vessel, just arrived from Singapore, has brought, as part of an extensive cargo of eastern productions, 1386 packages, and 6064 blocks, of the article.



**BIDDLE'S PATENT EOLIAN ENGINE**—The BEST, CHEAPEST, and SAFEST MODE OF OBTAINING WIND-POWER, ever yet employed, applicable in almost all situations, and to a great variety of useful purposes—such as pumping, grinding, and milling of every description, at a tenth part of the usual cost. It is self-regulating, and, where used for raising water only, it might be left day and night without attendance. There is no railway, estate, farm, nor mill, but might advantageously adopt it.—Specimen at Mr. Oliver's Saw-Mills, Surrey Canal, where all particulars may be obtained.—Contracts made, &c.

### IMPORTANT TO RAILWAY AND STEAM NAVIGATION COMPANIES, MANUFACTURERS, AND ENGINEERS.

**W. BROTHERTON AND CO'S PATENT LUBRICATING FLUID FOR ALL DESCRIPTIONS OF MACHINERY.**

W. B. & Co. have the pleasure to state, that the above article is extensively used in Her Majesty's Steam Navy, and by several of the principal Steam Navigation and Railway Companies, and is pronounced by them, and by the first practical engineers of the day, to be far better adapted for the purposes of lubrication than any other article hitherto used for such purposes. The Patent Lubricating Fluid is equally applicable for the most intricate and fine pieces of machinery, as for the heaviest bearings of the steam-engine. It is cheaper, much more economical, and cleaner than oils as presently in use; it is free from smell, and calculated to effect a vast saving in the expenditure of working steam powers. Further particulars can be had, and testimonials seen, by application to the manufacturers, W. BROTHERTON & CO., Hangerford Wharf, Strand, London.

N.B.—The above article will burn in lamps, and give a light equal to the best sperm oil.

### LAP-WELDED IRON TUBES, FOR MARINE AND LOCOMOTIVE STEAM-BOILERS, TUBES FOR STEAM, GAS, AND OTHER PURPOSES, ALL SORTS OF GAS FITTINGS.

**THE BIRMINGHAM PATENT IRON TUBE COMPANY.**  
49, CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE, MANUFACTURE BOILER AND GAS TUBES, under an exclusive License from Mr. R. Prosser, the patentee. These tubes are very extensively used in the boilers of marine and locomotive steam-engines in England and the Continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and are warranted not to open in the weld.  
42, CAMBRIDGE-STREET, CRESCENT, BIRMINGHAM.  
WORKS—SMETHWICK, STAFFORDSHIRE.  
LONDON WAREHOUSE—No. 68, UPPER THAMES-STREET.

### FLEXIBLE HOSE-PIPES FOR LOCOMOTIVE ENGINES, RAILWAY CRANES, FIRE-ENGINES, GAS, &c. PATENT VULCANISED INDIA-RUBBER HOSE-PIPES AND TUBING OF EVERY DESCRIPTION.

These pipes are made to stand hot-water without injury—are very superior to leather pipes, or the common India-rubber pipes; and, as they do not become hard or stiff in the lowest temperatures, or require any application when out of use, are particularly well adapted for fire-engines.

**FLEXIBLE TUBING**, of every description, for gas, chemical purposes, &c.  
**VULCANISED INDIA-RUBBER WASHERS**, all sizes, for steam and hot-water joints.  
—Sole manufacturer, **JAMES LYNE HANCOCK**,  
Goswell Mews, Goswell-road, London.

### PATENT ALKALI COMPANY'S IRON PAINT.—This PAINT, now first offered to the public, is the PRODUCT OF A PATENT PROCESS, and possesses VALUABLE and PECULIAR QUALITIES, in other words, it is a purple-brown—it is perfectly innocuous—it is far more durable than lead paint, and two coats are fully equal to three of any other paint. A single coat will be sufficient to demonstrate this. Its durability is very great.

From its chemical composition, it is especially, and above all other paints, adapted for covering iron; also wood, and stucco, or brick walls. The peculiar adaptation of the base of this paint makes it impossible that further change should take place in its composition. Its identity with iron secures it from galvanic action, so injurious to the durability of lead paint on iron work. It has been exposed on shipping to the action of sea-water, and the sulphuretted hydrogen so prevalent in sea-ports and tidal harbours, for three years, without change.

Its cheapness and strength render it admirably adapted for iron railings, farm buildings, and shipping. It will also cover crooked timber. Price, by the ton, £30, delivered in London. All orders to be addressed to the offices of the company, 20, Fenchurch-street, London; where testimonials may be seen as to the value of the paint.  
**EVANS, BROTHERS, Agents.**

### GALVANIZATION OF METALS.

**MESSERS. MOREWOOD AND ROGERS'S LATEST IMPROVEMENTS.**

In coating iron with molten zinc, the iron is very liable to injury, and the coating is generally brittle, and is apt to crack and break when being bent, and the coating will often chip or scale off. In coating iron with tin, the malleability of the iron is retained, and the adhesion and flexibility of the coating is uninjured by bending or folding, but a coating of tin does not protect the iron as a coating of zinc does. To obtain, therefore, the protection of zinc, combined with the advantages of tin, as a covering, and at the same time to obtain a harder coating than results from the use of either of these metals alone, Messrs. Morewood and Rogers now use an alloy of tin and zinc for coating iron. They have found that an alloy of tin with zinc, consisting of 50 parts of tin, and 50 parts of zinc, is the best alloy of these metals which can be used as a coating for sheets of iron hoop, iron wire, and other articles of iron; and they have also found, that if the proportion of zinc be much diminished, the coating becomes less durable and protective; on the other hand, they have found, that if the proportion of tin be diminished, the adherence of the coating becomes less and less effective, and the iron proportionately injured.

The proportions of the two metals above given may, however, be varied to some extent, and yet considerable benefit obtained. It has been also found that lead may be combined with the alloy, when a cheaper or lower-priced coating is desired. In using an alloy of tin and zinc for coating iron, it is found that to alter the proportion beyond 67 parts of zinc to 33 parts of tin, and 75 parts of tin to 25 parts of zinc, you are no longer able to obtain the beneficial results of the combined action of the two metals. Every departure from using equal proportions of the two metals seems to produce a decreasing beneficial effect, and this in proportion to the greater departure from such alloy. In preparing an alloy of tin and zinc, they first melt the tin in a wrought-iron vessel, and add the zinc by degrees, till the whole is melted; they then run the same into bars or ingots, and melt these ingots in a similar vessel of wrought-iron, in order to make a bath for coating iron, and from time to time they put such ingots or bars into the bath of molten alloy, in order to keep up a proper bath for coating the sheets or other articles of iron, covering the surface of the molten metal with sal-ammoniac. The iron to be coated is to be cleaned in the ordinary manner, and then coated as when coating with tin or with zinc. When using lead with the above alloy, Messrs. Morewood and Rogers find that a good proportion for an alloy is 50 parts of zinc, 35 parts of tin, and 15 parts of lead; and they produce such an alloy by melting the tin, then adding the lead, stirring them well, and finally adding the zinc.

It is further well-known, that in the process of coating iron with molten zinc a product of zinc results, which is precipitated to the bottom of the bath, and such product is of difficult fusion, and may up to this time be said to be a waste product. Now Messrs. Morewood and Rogers melt such product of zinc in a wrought-iron vessel, or in a reverberatory furnace, and they employ chloride of manganese as a flux on the surface. They dip articles of iron, such as pipes, brackets, and other articles not requiring bending, into the bath, and coat the same. They also alloy such product of zinc, or other zinc, with antimony and with lead, when used for coating iron; for this purpose an alloy, consisting of 50 parts of zinc, 34 parts of lead, and 16 parts of antimony, is found to be very useful. And in preparing such an alloy, they first melt the lead heated to redness before introducing the antimony, and, when well stirred, they cast the same into ingots, and after remelting, they add the zinc; and, as a flux, they add chloride of manganese, if the product of zinc before-mentioned be used in making the alloy, or if other zinc be used in making the alloy, they use sal-ammoniac. A third improvement consists in subjecting sheets of coated metal to pressure; for which purpose Messrs. Morewood and Rogers prefer to employ rollers, revolving in a flux, kept heated to a rather lower degree of heat than the melting point of the coating metal, by which means the coating is rendered soft, and in a condition to be acted on by pressure. They prefer to use palm or rape oil in all cases where the melting point of the coating is sufficiently low to allow of its use, as in the case of the coatings above mentioned. Or other means may be resorted to for softening the coating metal, such as a charcoal fire. When using a fire, it may be done by placing a grate containing charcoal along the front of the rollers, so that, as they revolve, they may become heated, and the metal by passing over the fire may become softened, and thus enable the rollers to equalize the coating metal on the surfaces of the sheets. Or, the sheets may be heated by dipping into flux, or otherwise, to nearly the melting point of the coating metal, and then pressing between suitable surfaces. The patentees, however, prefer the use of a flux or fluid matter with rollers for this purpose, as above explained.

The fourth improvement consists in facilitating the coating of such iron, by causing the iron to be acted upon by the vapour of muriatic acid (or of such other matter as will prevent or dissolve oxide) confined above the metal bath. For this purpose they construct a box, in the following manner:—The box is oblong, of wrought-iron, open at the bottom, and with a lid at the top; the bottom is closed by the lower edges dipping into the molten metal. On one side, about three-quarters of the way up, they make a longitudinal aperture, sufficiently large to allow the article which they intend to coat to pass into, and when required out of, the box—but, as it is desirable to exclude the atmospheric air, and keep in the muriatic vapour as much as possible, the aperture should be no larger than necessary. The object of having a lid on the top is to enable them, by opening it, to have access to the flux or the molten metal in the bath, and from time to time to clean off impurities, or to add metal or flux. Into one end of the box they fix a tube, made of lead or other suitable material, through which they introduce the vapour which is evaporated from a solution of muriatic acid contained in a retort. And for this purpose they prefer to apply this part of their invention when using rollers immersed in the metal bath, as the sheets to be coated can readily be passed through the opening above mentioned, so as to enter between the rollers, and the sheets will be delivered from the bath of molten metal through the flux therein, beyond the box above described.—*Mechanics' Magazine.*

**LAMBERT'S PATENT FLEXIBLE DIAPHRAGM WATER VALVES, OR TAPS.**—A certain PREVENTATIVE OF LEAKAGE, superceding the use of the metal plug-tap, which is so continually out of order. They are more durable, less expensive, and being nearly frictionless, are opened and closed with perfect ease. They have been tested under various pressures, and have given the greatest satisfaction.—MANUFACTURED ONLY BY THE PATENTEES,  
**THOMAS LAMBERT & SONS, Brass and Cook Founders,**  
30, New-cut, Blackfriars-road.

### CALDWALL'S PATENT SELF-FLEETING WINDLASS, CAPSTAN, AND RIDING BITS COMPANY.

OFFICES—No. 73, KING WILLIAM-STREET, LONDON.

The patronage of the Lords of the Admiralty and the Hon. Trinity Board, together with testimonials of several of the most practical, scientific, and influential naval men in the kingdom, having guaranteed the importance to the maritime world of the above-mentioned invention, it is now proposed to carry out the manufacture of the several patented articles—WINDLASSES, CAPSTANS, RIDING BITS, &c., by means of a capital of £100,000, to be raised in 5000 shares, of £20 each, and to be conducted by a company, to be formed for the purpose.

The above inventions, in addition to their superiority over the old windlass, capstan, &c., have the recommendation of greater economy, as they can be supplied at a less price—affording a very handsome profit, and, consequently, a large return to shareholders.

Models may be seen in operation—prospectuses obtained, and every information given, by application at the office, 73, King William-street, City, from Eleven till Four daily, and orders are received there and at the manufactory, Bell Wharf, Shadwell.

### CORNWALL NEW MINING COMPANY.

Capital £100,000, divided into 50,000 shares, of £2 each.  
(With power to be increased.)  
To be incorporated, in pursuance of the statute of 7 and 8 Vic., cap. 118—by which the responsibility of each shareholder is limited.  
Deposit 20s. per share.

Not to be Paid until the Company is completely Registered and Incorporated.

THE CORNWALL NEW MINING COMPANY IS ESTABLISHED TO WORK A SERIES OF TIN AND COPPER MINES, chiefly in the district of ST. IVES, which has hitherto afforded a larger profit on its return of ore than any other part of the county.

In pursuance of this plan, five of the descriptions have been already selected—viz., Georgia Tin Mines, Trewortha Tin and Copper Mine, Bray Tin and Copper Mine, Trevanno Tin and Copper Mine, and Wheel Squire Tin and Copper Mine, with whose owners the committee have been enabled to make such advantageous arrangements, as to enable them to work one or more with even a small portion of the proposed capital.

These mines are not only known to contain mineral ores of immense value, but the workings are already so far advanced, that the lodes ascertained and reached must produce early and large returns; and, in addition to the above, there are others which the committee have secured on sufficient public support being obtained.

With a view of inducing the public generally to avail themselves of such a beneficial employment of their capital, the committee have made the shares £2, and of which only £2 10s. is to be paid within 18 months—limiting further calls to the control of the subscribers themselves, and to be made only when a dividend shall have been declared.

Applications for shares to be made, in the usual form, at the offices of the company, 17, Essex-street, Strand; and to the following brokers and agents, of whom detailed prospectuses may be obtained:—Messrs. G. and T. Irvine, Liverpool; Messrs. Cardwell and Sons, Manchester; Messrs. Scott and Sons, Birmingham; Messrs. Rhodes and Hayes, Leeds; Messrs. Braily and Co., Hull; Mr. Joseph Clarke, Jun., Southampton; Mr. Chas. Clave, Halifax; Messrs. William and Charles Skardon, Plymouth; Messrs. W. Moore and Co., Huddersfield; Mr. Thomas Dewhurst, Bradford; Mr. Henry Vatcher, Exeter; Mr. Ralph Dodsworth, York; Mr. W. F. Collier, Brixham; F. Crowe, Great Yarmouth; Mr. Charles Vincent, Dartmouth; Messrs. Edward Morgan and Co., Norwich; Messrs. Robinson Cruick and Son, King's Lynn.—Prospectuses can also be had at the office of the Mining Journal, 26, Fleet-street, London.  
**GEORGE LOCKWOOD, Secretary.**  
Office, 17, Essex-street, Strand.

### EAST WHEEL FRIENDSHIP MINING COMPANY, ADJOINING OLD WHEEL FRIENDSHIP.

TO BE WORKED ON THE "COST-BOOK" PRINCIPLE.

REPORT OF J. H. HITCHING, ESQ., OF THE DEVON GREAT CONSOLS.

In viewing the self generally, I have only to remark, that I consider it one possessing advantages of more than ordinary character; and, as a mining investment, as good as any can be. The lode at present in the adit and now driving east, the River Tor, being the largest water-carrying lode in the district, has proved so profitable to the adventurers—from 4 to 5 feet wide, intermixed throughout with gossan, muddle, copper, peach, prill, and all the other characteristics comprised in the term "kindly." Application for the remaining shares, or further particulars, apply at the office of the company, 48, Threadneedle-street; or of Mr. James Lane, 75, Old Broad-street.

### EAST BIRCH TOR MINING COMPANY, NOW WORKING ON THE "COST-BOOK" SYSTEM.

In 2500 shares, at £2 per share, the very low dose of 1-28th.

LOCAL MANAGERS—Capt. Thomas Moyle.

PROMOTER—Mr. Thomas Ball, Exeter.

BANKERS—Roberts, Curtis, & Co., London; Milford, Snow, & Co., City Bank, Exeter.

SOLICITOR—Mr. Ambrose Clare, 5, Saxe-lane, Bucklersbury, London.

SECRETARY—Capt. William Henry Smith, R.N., 1, Copthall Chambers, Throgmorton-street, London.

The East Birch Tor Mine is held by this company for an unlimited term of years, provided four miners be kept at work on the mine, and the very low dose of 1-28th.

It is situated in the parishes of North Bovey, 6 miles west of Moreton, 15 miles west of Exeter, 12 miles north-west of Ashburton and Newton, 14 miles east of Tavistock, and 20 north-west of Plymouth, in the county of Devon.

The mine is worked on the Cost-Book System, by which each shareholder is responsible only for the amount of shares he holds, and whereby he is at liberty to withdraw himself at any time, and demand his portion of the value of the mine, on giving notice to the secretary or purser to that effect.—(See *Mining Journal* of the 19th of June, 1847.)

The mine contains 10 districts, or veins, the richness of which has been fully tested and ascertained, so that the employment of a moderate capital cannot fail to make it equal to the most productive tin mine in either Devonshire or Cornwall.

Birch Tor, or Viteford Mine, on the same lode, and immediately adjoining East Birch Tor to the west, and of the same extent, has returned to a small proprietor, by the employment of a moderate capital, in a comparatively short period, upwards of £100,000 worth of tin.

The shafts, water-wheels, lifts or pumps, stamp, workshops, and all necessary implements and materials are complete, so that the mine can be worked in that respect in the most perfect manner, and the additional outlay being confined to sinking shafts to a greater depth, driving levels, and raising ore for market.

There is sufficient surface-water to prosecute the mine to a great depth. Rapid fortunes are now being realised by the mining operations in the surrounding neighbourhood, and no doubt is entertained that this mine (from the facility offered by the ready and cheap transit and shipment of the ores, and the delivery of all mining materials, particularly as metals now bear so steady and remunerative a price) will be equally successful.

This mine is at present working under tribute; and, from the increase both of quantity and richness of the ore, at its present lowest level, the advantages of further deepening and laying the mine more open, are most encouraging. The public, therefore, have the opportunity of taking shares in this mine at the moment of its greatest prosperity.

A general meeting will be held every two months (ten days' notice of the time and place being given), when a full report of the company's affairs will be submitted to the shareholders.

It is confidently anticipated, that, by the disposal of the shares now offered to the public, the company's funds will be sufficient for future operations; at all events, it is guaranteed that no call will be made during the first 12 months, but by the expiration of which time no doubt is entertained of complete success.

Application for the remaining shares to be made either to the Secretary; to Messrs. Blackie and Son, 3, Laurence Pountney-place; or to Mr. Ambrose Clare, Solicitor, Saxe-lane, Bucklersbury, London.

Extract from a Report by Capt. James Browning, of East Birch Tor Tin Mine.

In presenting to you my report upon this mine, I will lay before you a statement of the work done from the commencement to the present time. There is a cross-cut adit level driven 287 fms., which is a firm adit almost all the way, and we have cut six lodes. We have driven on the course of 160 fms. on the lode, and have produced 100 tons of tin, and this lode has produced from 100 to 200 of tin in driving, and the greater part of the backs have been taken away at a moderate tribute. The north lode, at the shallow adit, has been driven east about 100 fms., and west about 170 fms., from the engine-shaft; the lode, in driving, has produced 300 of tin per fm. The engine-shaft is sunk on the north lode to 12 fms. under adit; and we have driven in these bottom levels 37 fms. east, and 52 fms. west. These bottom levels have produced more tin than at adit level, and there is a good lode going down; I should, therefore, recommend sinking the engine-shaft immediately, and I would also recommend to drive the other north lode.

East Birch Tor Tin Mine, Dartmoor, Devon, Sept. 7, 1847. **JAMES BROWNING.**

Extract from a Report by Mr. John Offord, of St. Austell, Cornwall.

I have much pleasure in answering your inquiries about East Birch Tor Tin Mine, Dartmoor. There is a good cross-cut adit, nearly 300 fms. long, unwatering the whole surface of the mine. There are three water-wheels—about 30 ft. in diameter, attached by 370 fms. of flat-rods to the work in the engine-shaft, by which the mine is pumped; the other stamping wheels. All necessary materials for the present effective working of the mine are there. The engine-shaft, which is well placed for the first, third, and fourth lodes, is down 24 fms. from grass, and the lodes opened upon 70 or 80 fms. There is a regular diffusion of tin through the lode in the bottom of the level, in some spots rich; and I have no doubt but that the next level will be opened to great advantage. There have been several branches of richer tin, and these will probably considerably extend in depth. I should think the best thing to be done would be to continue the adit level on the 3 lode, to the western boundary, where it would be from 25 to 35 fms. deep, and where pitches would set from 4s. to 10s. in 12, on 140 fms. of backs, sinking the engine-shaft at the same time.—**JOHN OFFORD: in St. Austell, Nov. 27, 1847.**

Extract from a Report on East Birch Tor Tin Mine, by Capt. Thomas Moyle, of Wheel Anna Maria Mine, near Exeter.

According to your request I have carefully examined and inspected East Birch Tor Tin Mine, Dartmoor. I find the set to be a very extensive one; in length about 1500 fms. on the course of the lodes, and in breadth about 500 fms., which contains 10 parallel lodes already discovered, and which have been partly opened on; but only Nos. 3 and 4 have been worked to any extent. No. 3 is the one the engine-shaft is sunk upon; it has some good bunches of tin going down in the bottom of this level, which can be seen at this time. The adits are well ventilated by shafts, and might be very advantageously extended east and west on the lodes. I have no doubt in my mind but that the ends would pay themselves for driving in a short time, and also leave large quantities of tin to be taken away from the backs on a tribute. There is another feature which struck my attention, which is a north lode, about 70 fms. to the north of No. 3 lode, which is of very rich promise, seeing so much water rising from it on the surface; and it does appear to me to be the same lode that realised such splendid fortunes to the proprietors of the adjoining mine. When the junction is effected with this lode, you may safely calculate on having a rich course of tin. On the whole, I may safely venture to say, that you have at least a good and promising mine; and it is my real opinion that, if this mine is worked at all judiciously, it will be found as rich and good a tin mine as any one of the best tin mines in all Cornwall; there never were such fine indications of the success in any of the richest tin mines in Cornwall as there are in East Birch Tor Tin Mine; and if it is worked out with spirit, I should be most desirous to have a few shares in it myself.  
**THOMAS MOYLE.**  
Wheel Anna Maria Mine, Dunsford, near Exeter, December 26, 1847.

### SNYDER'S PATENT LEATHER COMPANY.

(Provisionally Registered, pursuant to the Act 7 and 8 Vic., cap. 110.)  
Capital £200,000, in 20,000 shares, of £10 each.—Deposit 10s. per share.—No call to exceed 10s. per share, nor at intervals of less than three months.

CHAIRMAN—JOHN GARDNER, Esq., M.D., 51, Mortimer-street, Cavendish-square.

PROVISIONAL DIRECTORS.  
G. W. BLANCH, Esq., 3, Abchurch-lane, Blackfriars-road.  
H. ENGLISH, Esq., 20, Fleet-street.  
W. PEARSE, Esq., High-street, Exeter.

THOMAS PORTER, Esq., City-terrace, City-road.  
W. SHEARMAN, Esq., 12, Green-street, Ardwick, Manchester.  
JOSEPH SMITH, Esq., Parkfield, Rusholme, Manchester.

W. STAGG, Esq., Green-park, Manchester.  
J. TRUSCOTT, Esq., Hemmingsford Villas West, Barnsbury-park, Bellingford.  
D. L. WILLIAMS, Esq., 6, Edwards-square, Kensington.  
W. M. WILLIAMS, Esq., 17, Wilnot-street, Brunswick-square.

BANKERS—The Commercial Bank of London, Lombard-street.  
SOLICITOR—E. Moss, Esq.—SECRETARY—Mr. E. W. Mason.

OFFICES—TEMPLE CHAMBERS, FLEET-STREET.

This company has been formed to carry into effect an improvement in the art of tanning, by which leather is rendered not only superior in quality, but is produced at a lower price, and more uniform in texture, than by any process hitherto known.

A patent having been granted to Mr. Snyder for his improvements in tanning, the rights of the patent have been secured, on advantageous terms, as also his services in carrying out the operations of the company.

From estimates which have been carefully gone into, and which can be inspected on application at the offices of the company, a large return on the capital employed will be obtained, even to the extent of 100 per cent. per annum.

This estimate may appear to show profits so far beyond the ordinary result of trade as to call for explanation. Snyder's process effects a saving of—1. Half the time in tanning; 2. 12 or 15 per cent. of skin or hide—i.e., the leather produced weighs so much more; 3. A saving of 10 per cent. of tan; and 4. The production of a superior article. In this respect Snyder's Leather will compete with the best French Leather.

Prospectuses, with every information, will be afforded on application to E. Moss, Esq., solicitor, 4, Queen-street, Chancery; or to the secretary, at the offices of the company, to whom applications for shares are to be addressed.

The directors beg to claim the attention of the public to their arrangements, which, they trust, will be found to secure the interest of all subscribers, without incurring any of those evils not unfrequently attendant upon such enterprises.

### NATIONAL DISINFECTED AND DRY MANURE COMPANY.

OFFICES—No. 7, BANK CHAMBERS, LOTHBURY.  
(REGISTERED PROVISIONALLY.)  
Capital £200,000, in 20,000 shares, of £10 each.—Deposit £1 per share.  
No call will exceed 5s. per share, and the liability of shareholders will be limited to the amount of their respective shares.

PROVISIONAL COMMITTEE.  
GERARD BARRY, M.D., Charles-street, St. James's-square.  
JAMES ORGILL, Esq., 11, Old-square, Birmingham.

JOSHUA E. COOPER, Esq., West Ham, Essex.  
BANKERS—Messrs. Spooner, Atwoods, and Co.

The object of this company is to collect the animal and vegetable refuse of large and populous towns, and subsequently to convert them into a dry, inodorous, and portable manure. By the company's process all decomposed substances, whether animal or vegetable, liquid or otherwise, may be rapidly converted into a seedless manure—rich in every fertilising quality, and abounding in vegetable stimulant.

A manure, somewhat similar, has for some time been manufactured by a proprietor company in Paris, under the commercial firm of "Baronet and Co." The last report states, that "crops were obtained incomparably finer, and more abundant, than by the use of any other manure."

The cost of preparation is trivial, in comparison with any of the present methods of dressing. The committee, therefore, have no hesitation in affirming, that the profits will equalise the most sanguine expectations of shareholders.

The operations of the company will commence in the town of Birmingham. Samples of the manure may be seen at the offices.  
**JAMES H. KENWORTHY, Sec.**

### NATIONAL DISINFECTED AND DRY MANURE COMPANY.

NOTICE is hereby given, that the ALLOTMENT OF SHARES in this COMPANY is being proceeded with, and that the LETTERS will be ISSUED in the course of a few days.  
**JAMES H. KENWORTHY, Secretary.**

### LONDON AND PROVINCIAL DETECTIVE ASSOCIATION, FOR THE PROTECTION OF TRADE.

No. 39, SOUTHAMPTON-BUILDINGS, HOLBORN, LONDON.

OFFICE HOURS: TEN TO FOUR.

The object of this institution is to furnish every information (which may be obtained by subscribers only) respecting all parties, in any capacity whatever, avoiding their creditors, under any circumstances; also, in providing every species of information calculated to protect Bankers, Merchants, Tradesmen, Companies, Institutions, Assurance Offices, Loan Societies, Auctioneers, Landlords, Tenants, &c., in such a manner hitherto unattempted by any kindred society.

Subscribers may be preserved from losses through fraud of all kinds, by previous application at this office. They are also requested to make every communication in their power that may tend to protect the members, which will be considered strictly private, and, at the same time, deemed a favour.

Persons wishing to become members of this association, must apply, by letter only, addressed (pre-paid) to the secretary, who will forward the rules.

Subscribers only are eligible to apply for any information—the terms of which are £1 1s. per annum—10s. 6d. in advance.  
**H. E. NEWMAN, Secretary.**

### THE PATENT OFFICE AND DESIGNS REGISTRY.

No. 216, STRAND, LONDON.

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION OF INVENTIONS AND DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years' experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 216, Strand (corner of Essex-street).

### NATIONAL LOAN FUND LIFE ASSURANCE SOCIETY.

26, CORNHILL, LONDON.

Capital £500,000.—Empowered by Act of Parliament.  
This institution embraces important and substantial advantages with respect to Life Assurances and Deferred Annuities. The assured has, on all occasions, the power to borrow, without expense or forfeiture of the policy, two-thirds of the premium paid (see table); also the option of selecting benefits, and the conversion of his interests to meet other conveniences or necessities.

Assurances for terms of years are granted on the lowest possible rates.

DIVISION OF PROFITS.  
The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 35 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Assured may Borrow.
£1000	£0 4	1837	£217 15 1	£109 0 11	£16 0 4	£445 0 0
		1838	192 3 0	87 1 4	15 10 2	385 11 1
		1839	165 11 10	74 1 9	11 3 1	346 1 1
		1840	116 7 6	54 10 0	7 18 10	296 13 5
		1841	111 6 8	49 10 0	7 10 4	247 4 5

The division of profits is annual, and the next will be made in December of the present year.  
**F. FERGUSON CAMROUX, Secretary.**

ON NERVOUS DEBILITY AND GENERATIVE DISEASES.  
Just published, the